

# GOAL 2019 Shrimp Review

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Director, Institute for Sustainable Food Systems & Professor, Food and Resource Economics

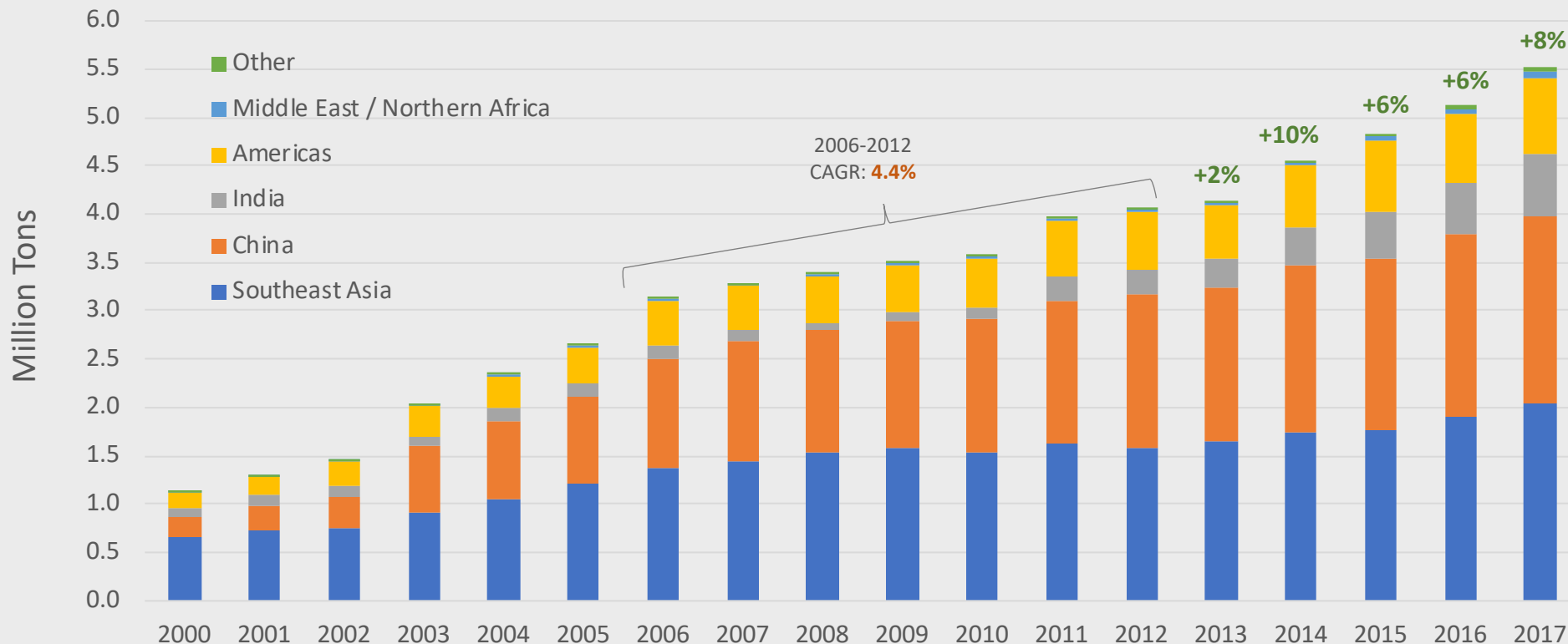
University of Florida  |  Sustainable  
Food  
Systems

**Diego Valderrama**, George Mason University

**Darryl Jory**, Editor Emeritus, Global Aquaculture Alliance

# Shrimp Aquaculture Production by World Region (2000-2017)

## FAO Data



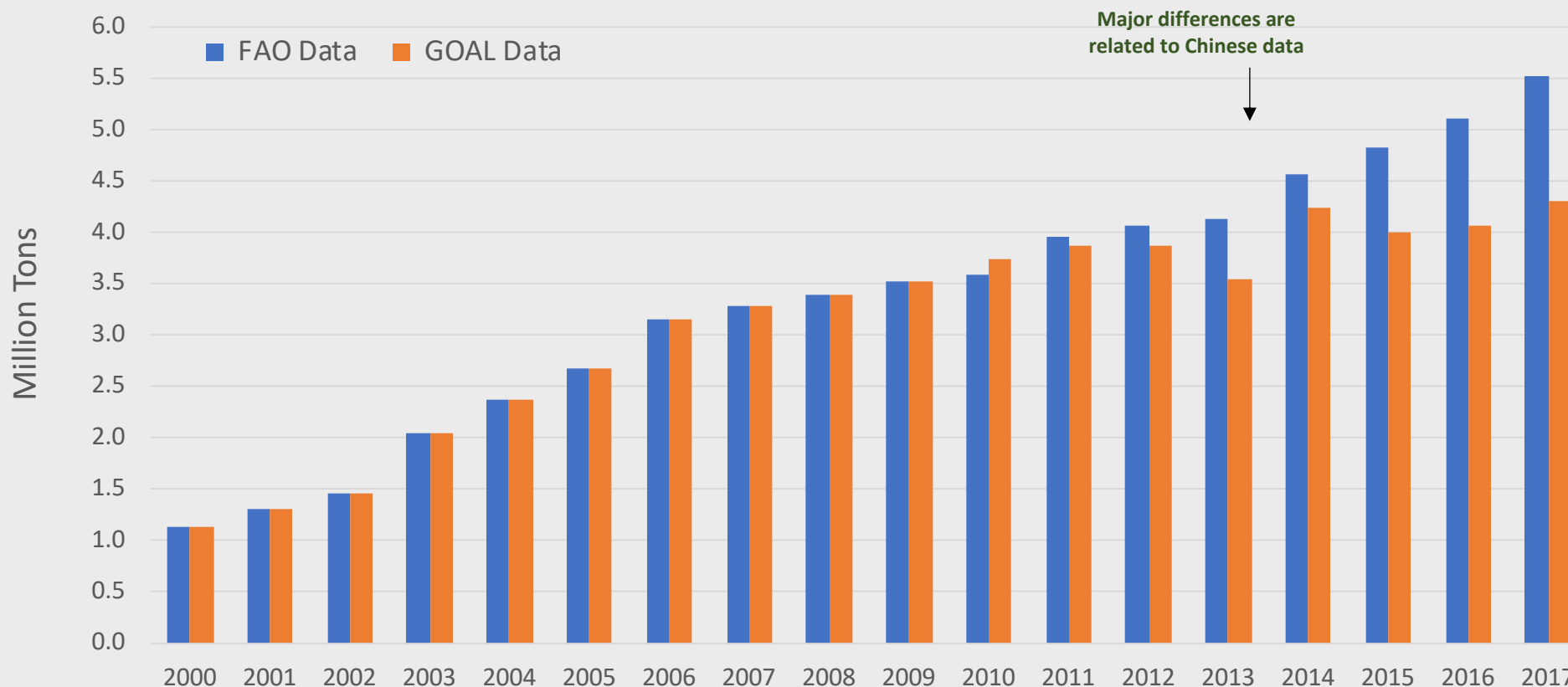
Source: FAO (2019).

Southeast Asia includes Thailand, Vietnam, Indonesia, Bangladesh, Malaysia, Philippines, Myanmar and Taiwan.

Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.

# World Shrimp Aquaculture Production

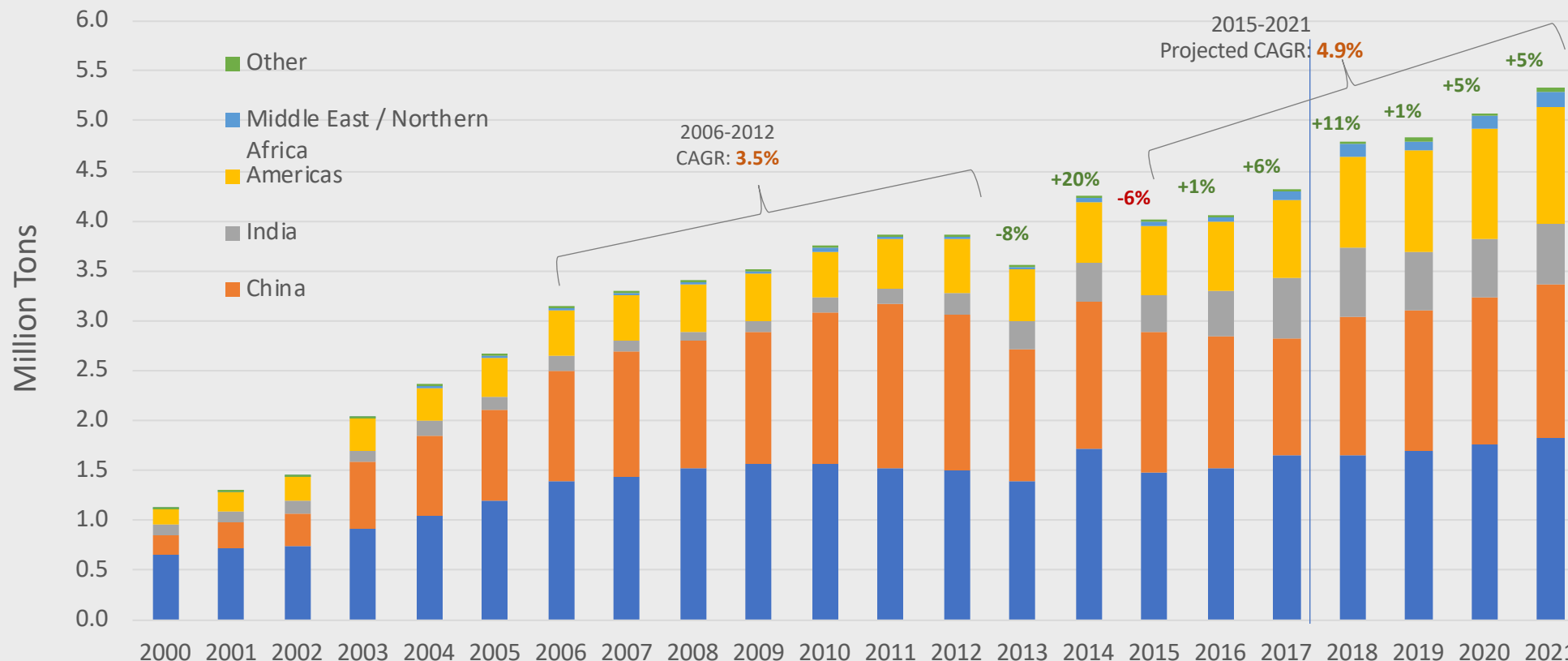
## FAO versus GOAL Data



Sources: FAO (2019) and GOAL (2011-2019).

Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.

# Shrimp Aquaculture Production (2000-2021)

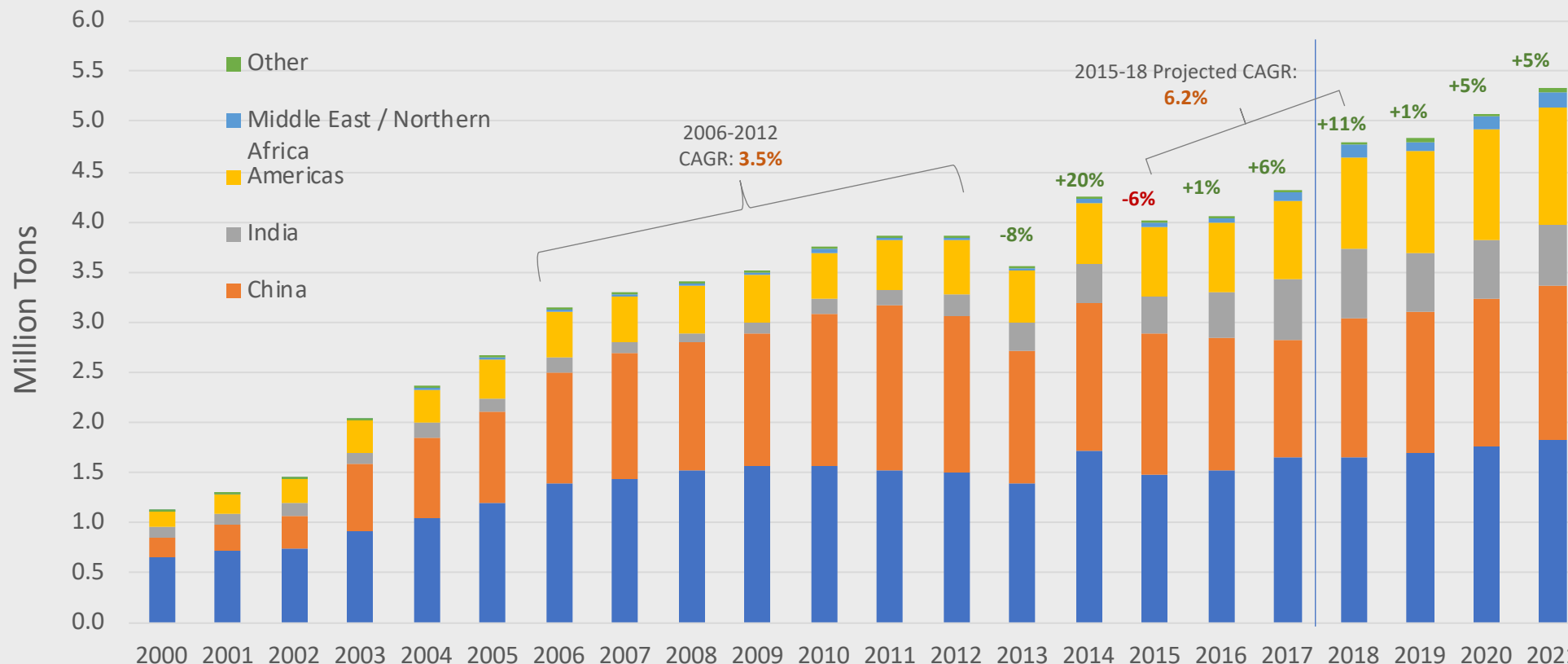


Sources: FAO (2019) for 2000-2009; GOAL (2011-2018) for 2010-2017; GOAL (2019) for 2018-2021.

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# Shrimp Aquaculture Production (2000-2021)



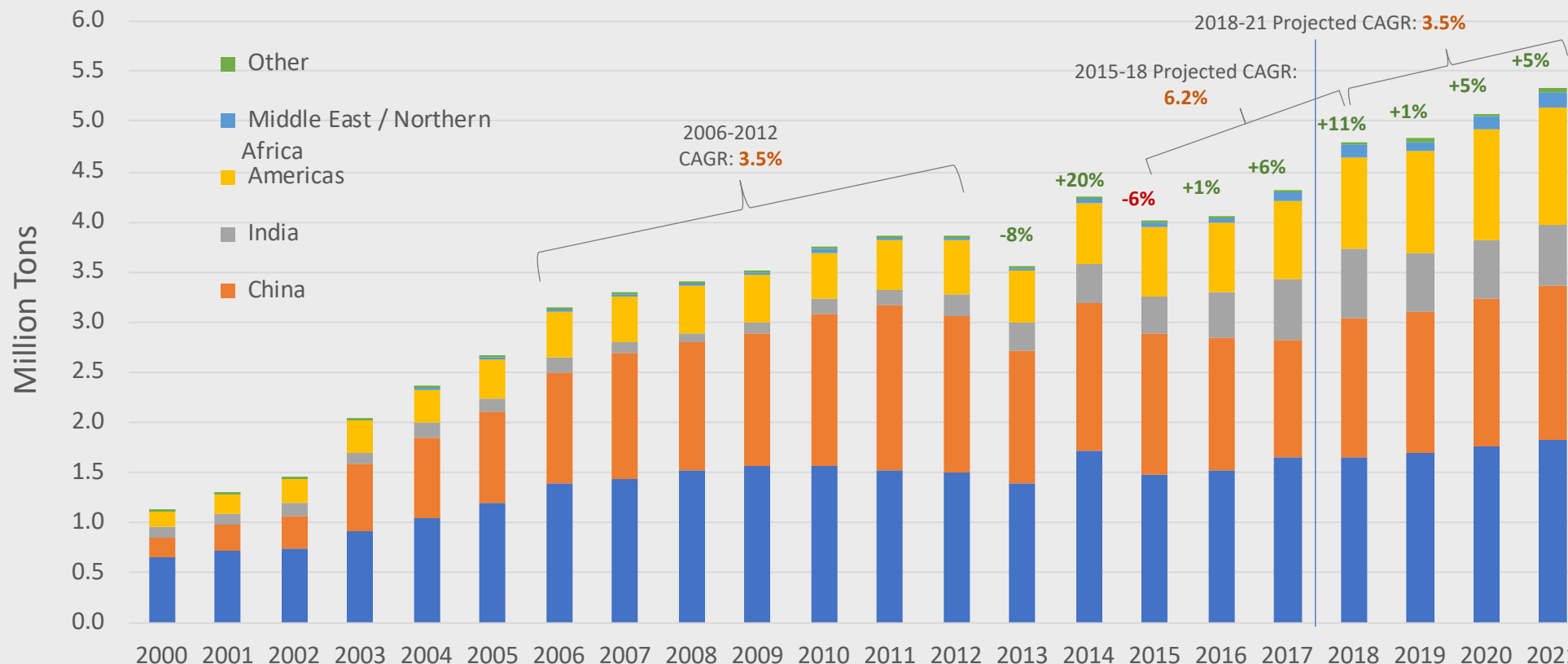
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## FAO and GOAL Data

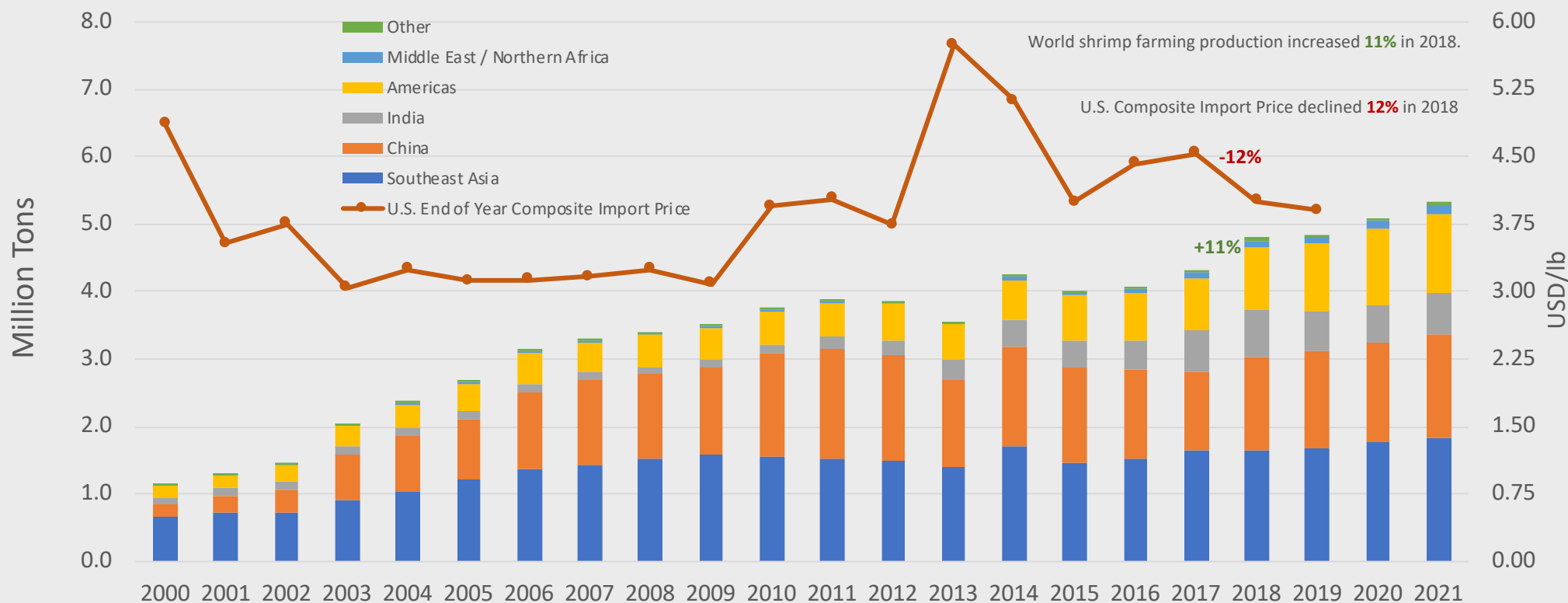


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# Shrimp Aquaculture Production (2000-2021)



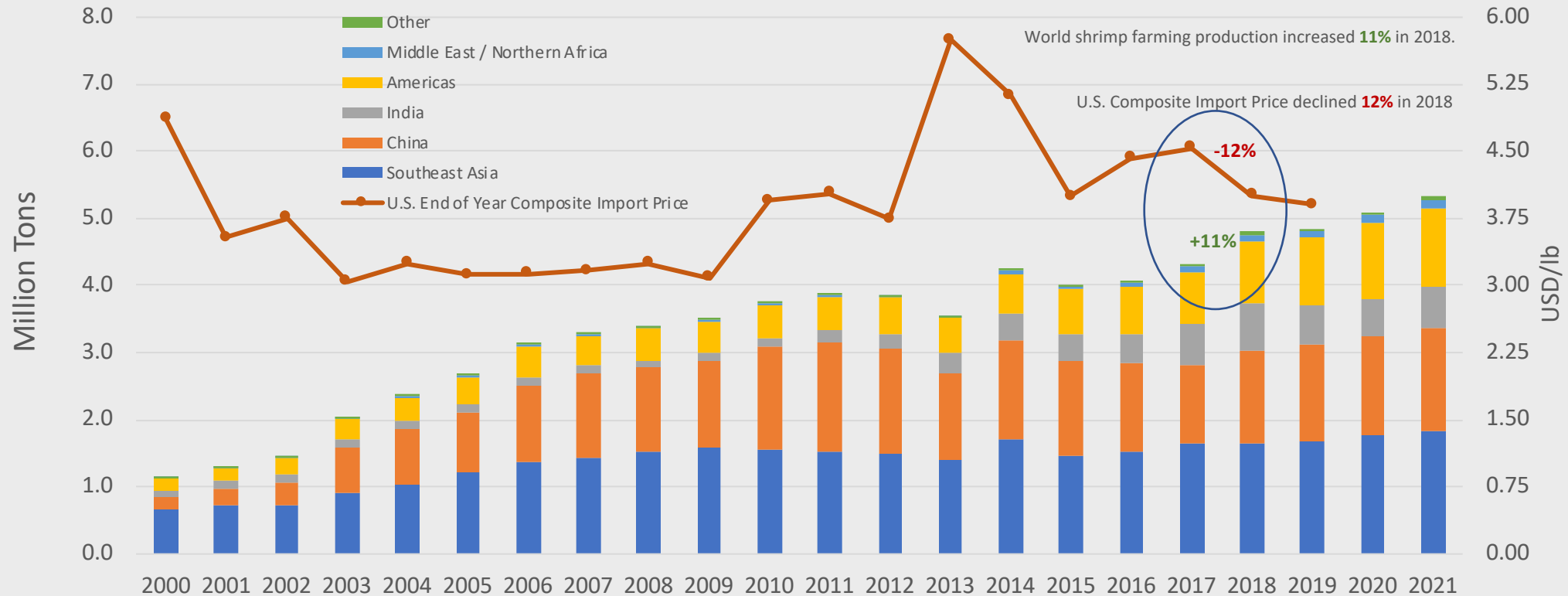
Data sources for production: FAO (2019) for 2000-2009; GOAL (2011-2018) for 2010-2017; GOAL (2019) for 2018-2021.

Data source for prices: USDC/NMFS (2019). 2019 End-of-Year Composite Import Price is an estimate.

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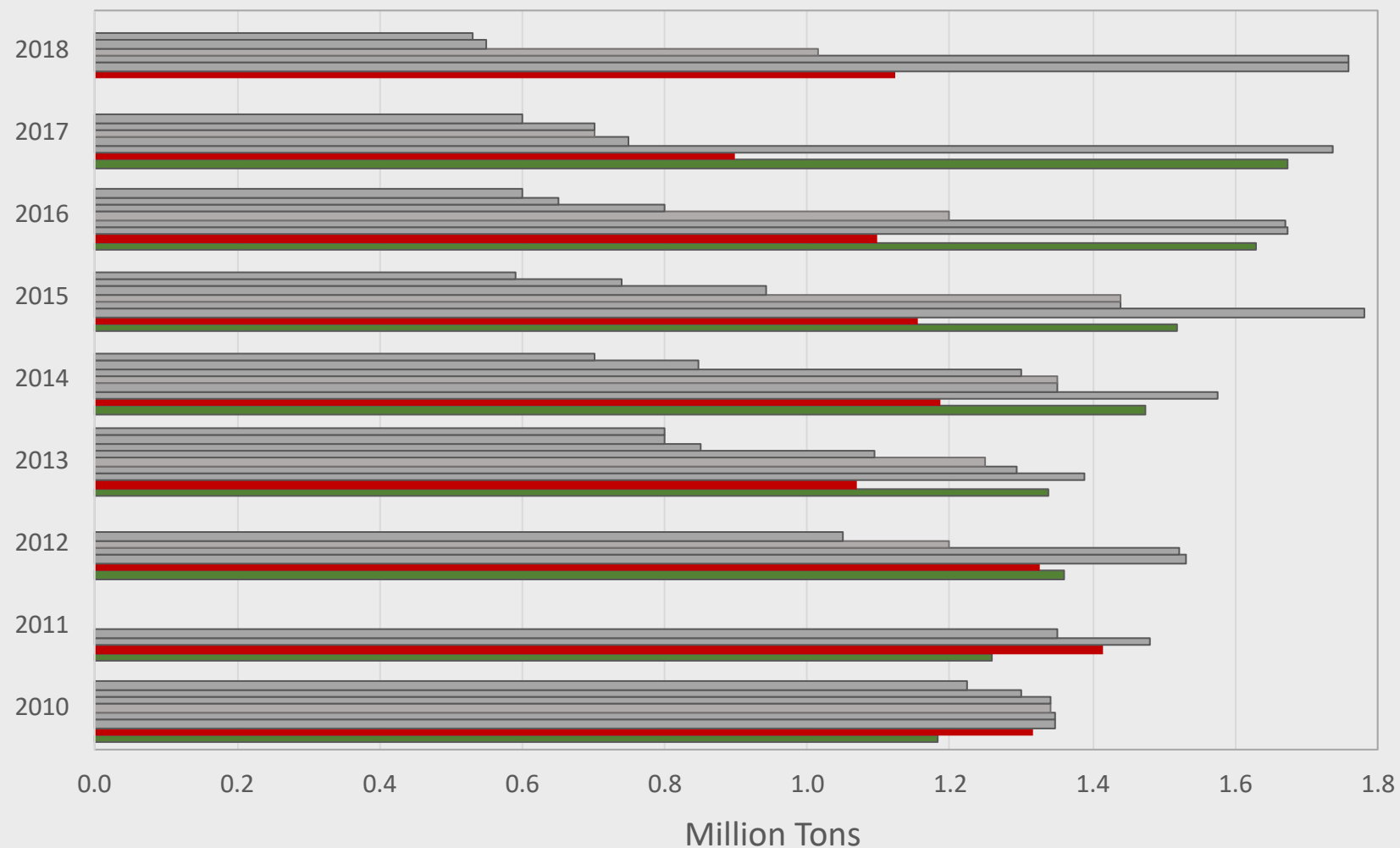
Data sources for production: FAO (2019) for 2000-2009; GOAL (2011-2018) for 2010-2017; GOAL (2019) for 2018-2021.

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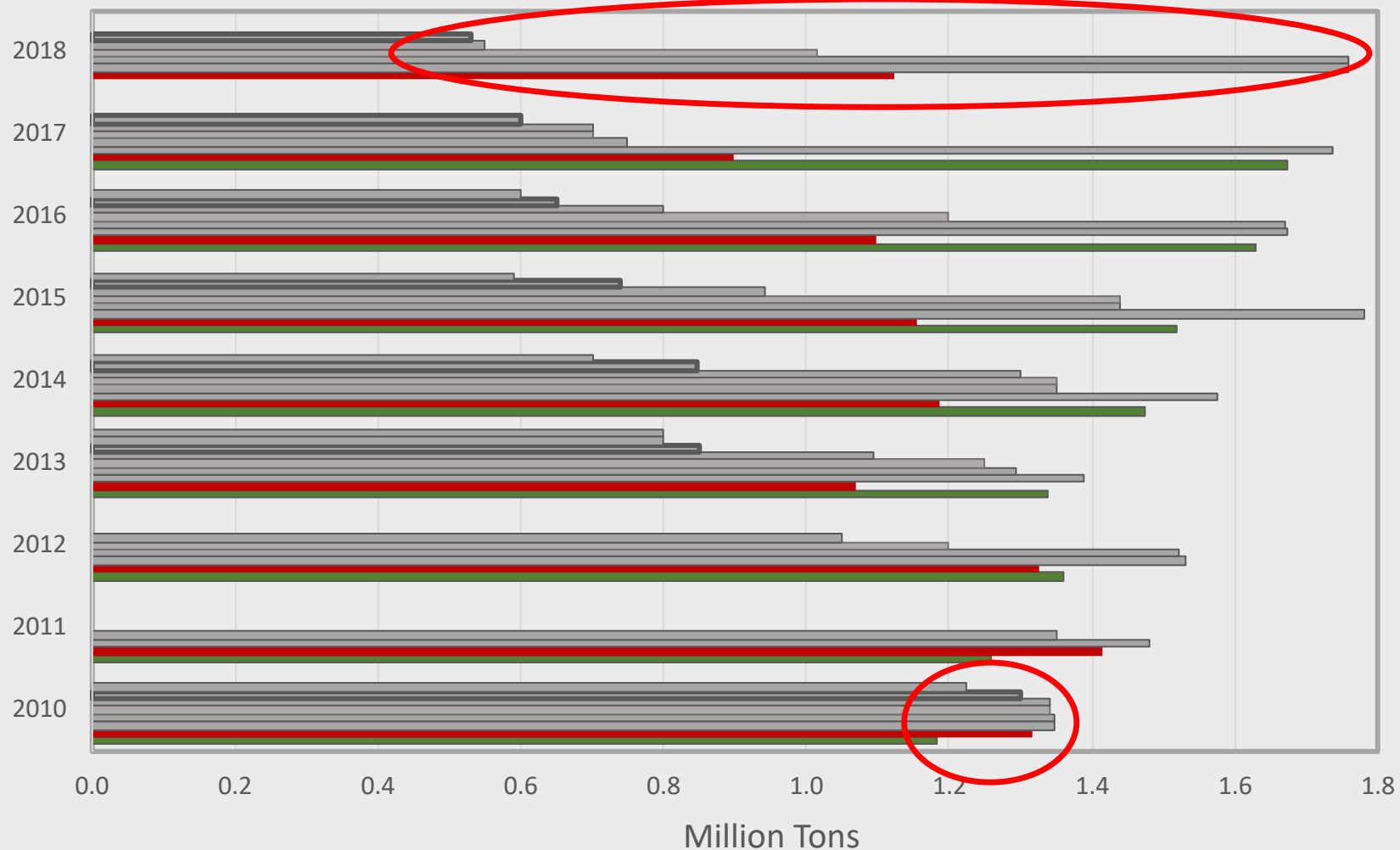


## Production of *L. vannamei* in China

Estimates Provided by GOAL Survey Respondents, 2010-2018

- Estimate 7
- Estimate 6
- Estimate 5
- Estimate 4
- Estimate 3
- Estimate 2
- Estimate 1
- GOAL Average
- FAO Estimate

Sources: FAO (2019); GOAL (2011-2019).



## Production of *L. vannamei* in China

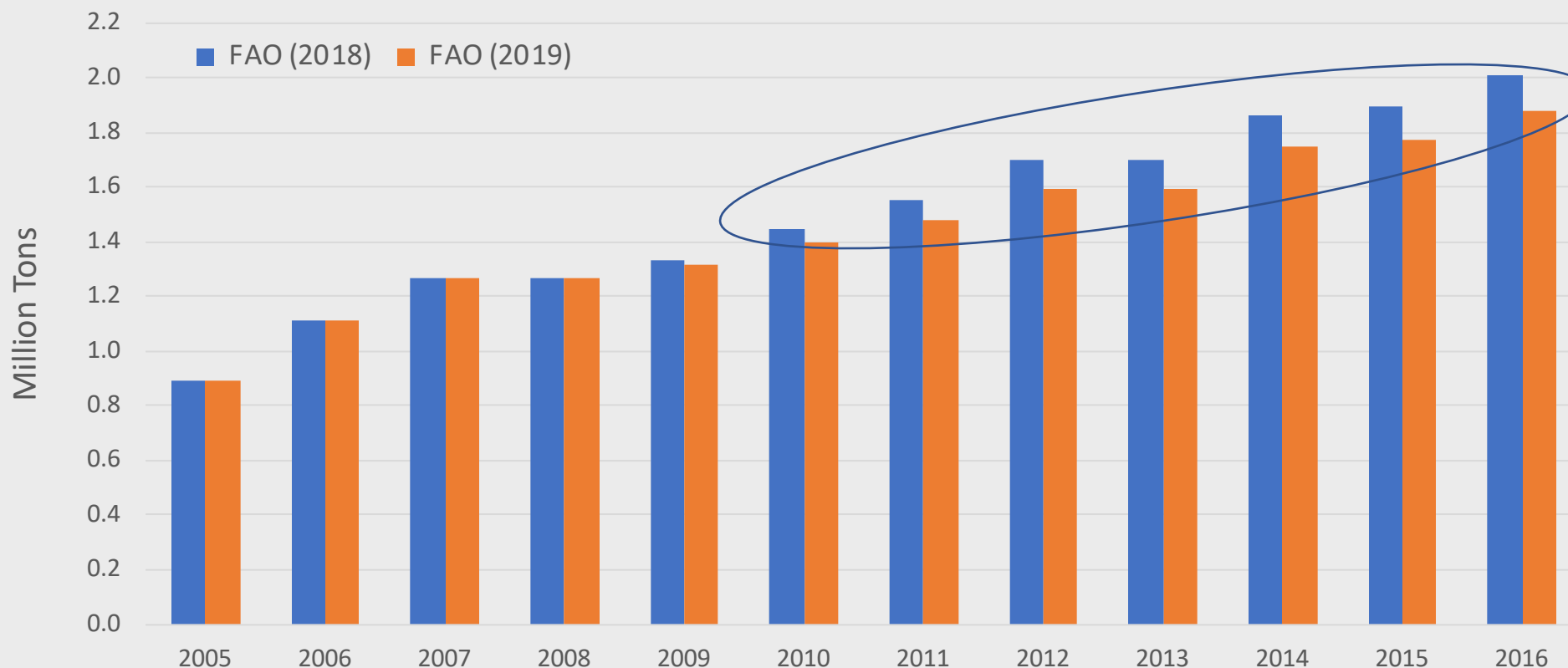
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Sources: FAO (2019); GOAL (2011-2019).

# FAO Revised China's Shrimp Production Estimates Down

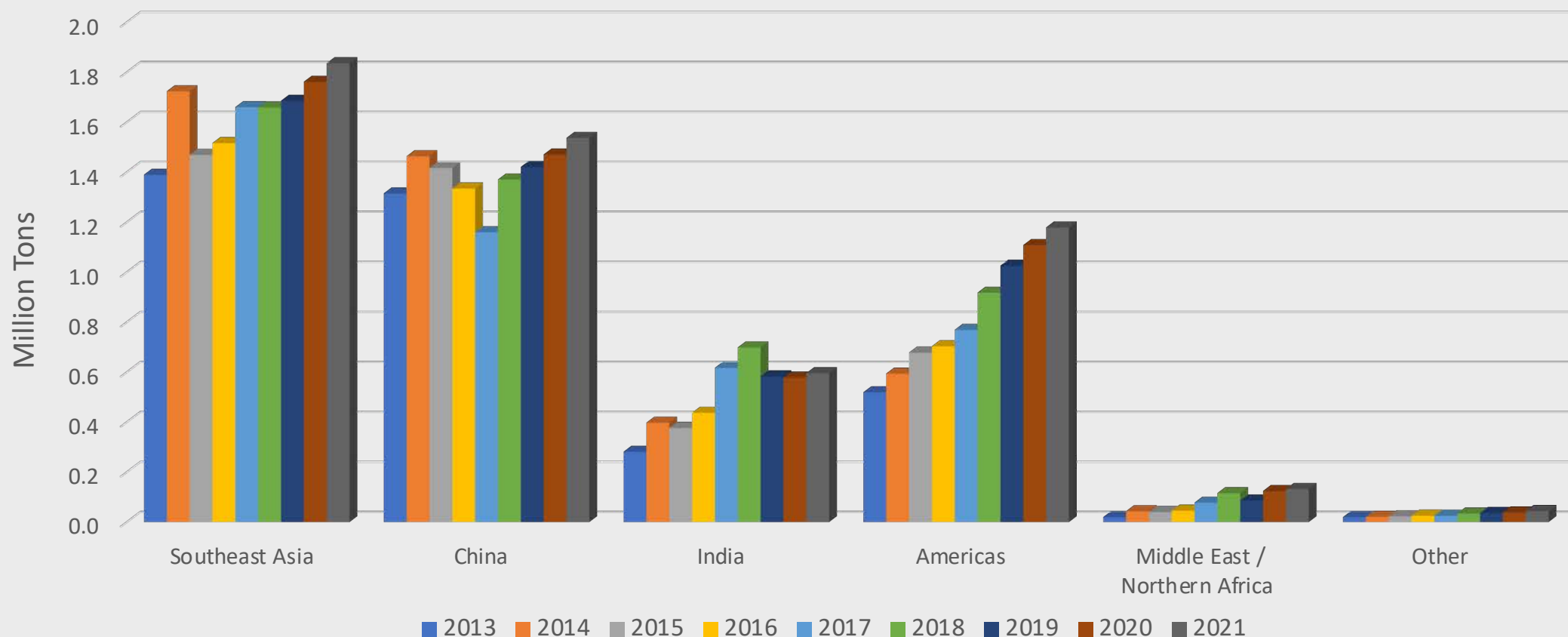
## Comparing FAO (2018) vs. FAO (2019) – All Species



Sources: FAO (2018-2019).

Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.

# Shrimp Aquaculture by Major Producing Regions: 2013 - 2021

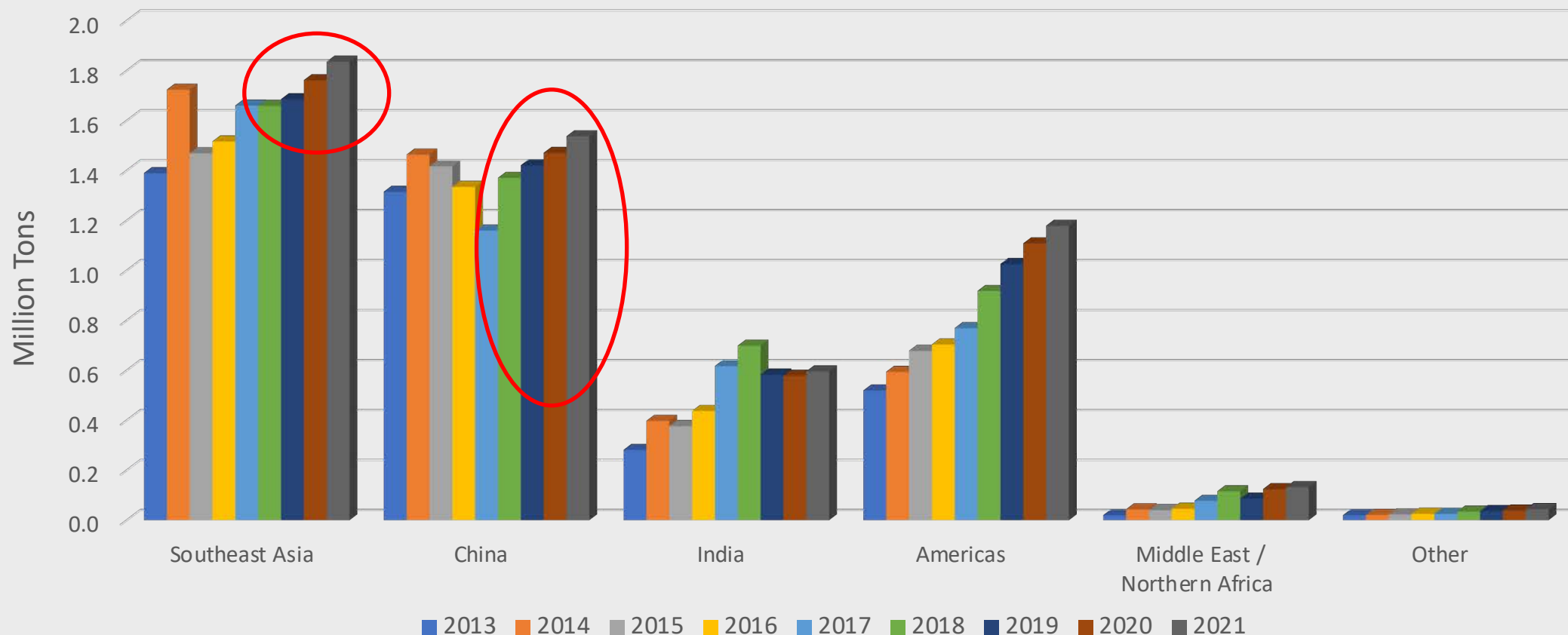


Sources: GOAL (2014-2018) for 2013-2017; GOAL (2019) for 2018-2021.

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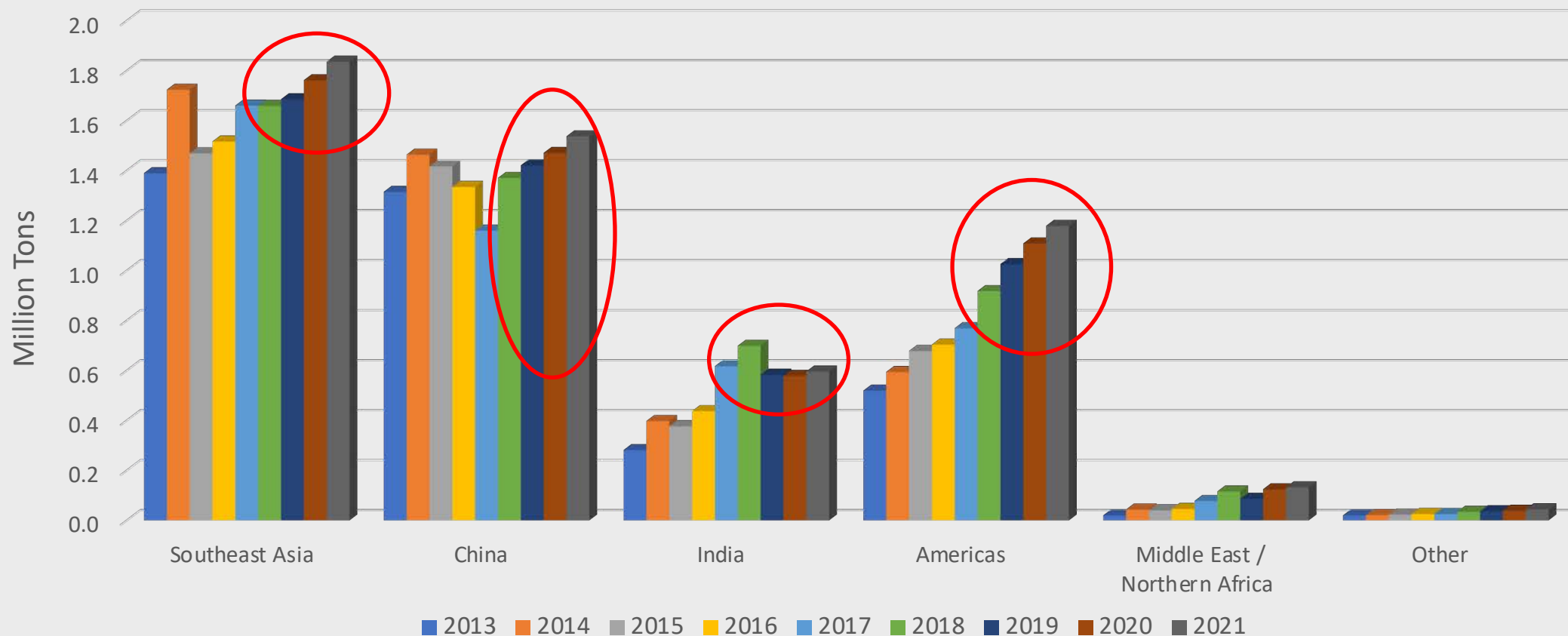


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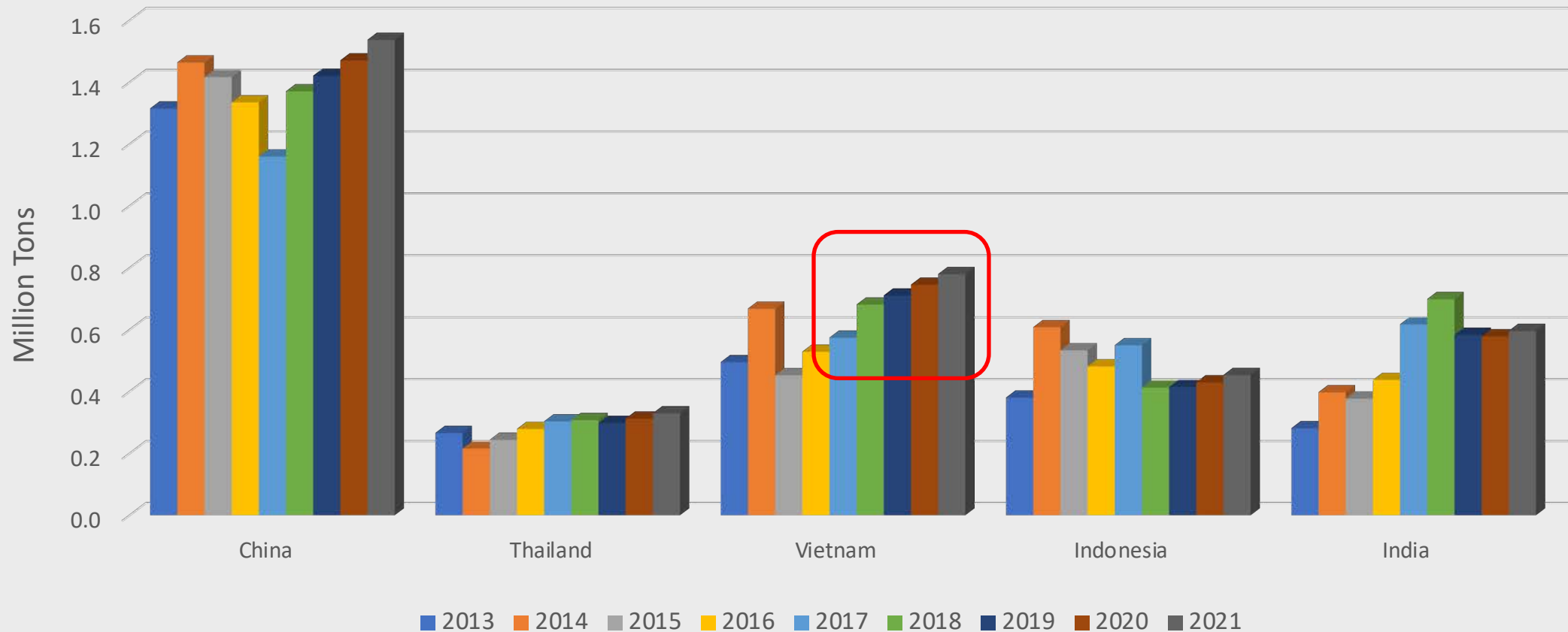


Sources: GOAL (2014-2018) for 2013-2017; GOAL (2019) for 2018-2021.

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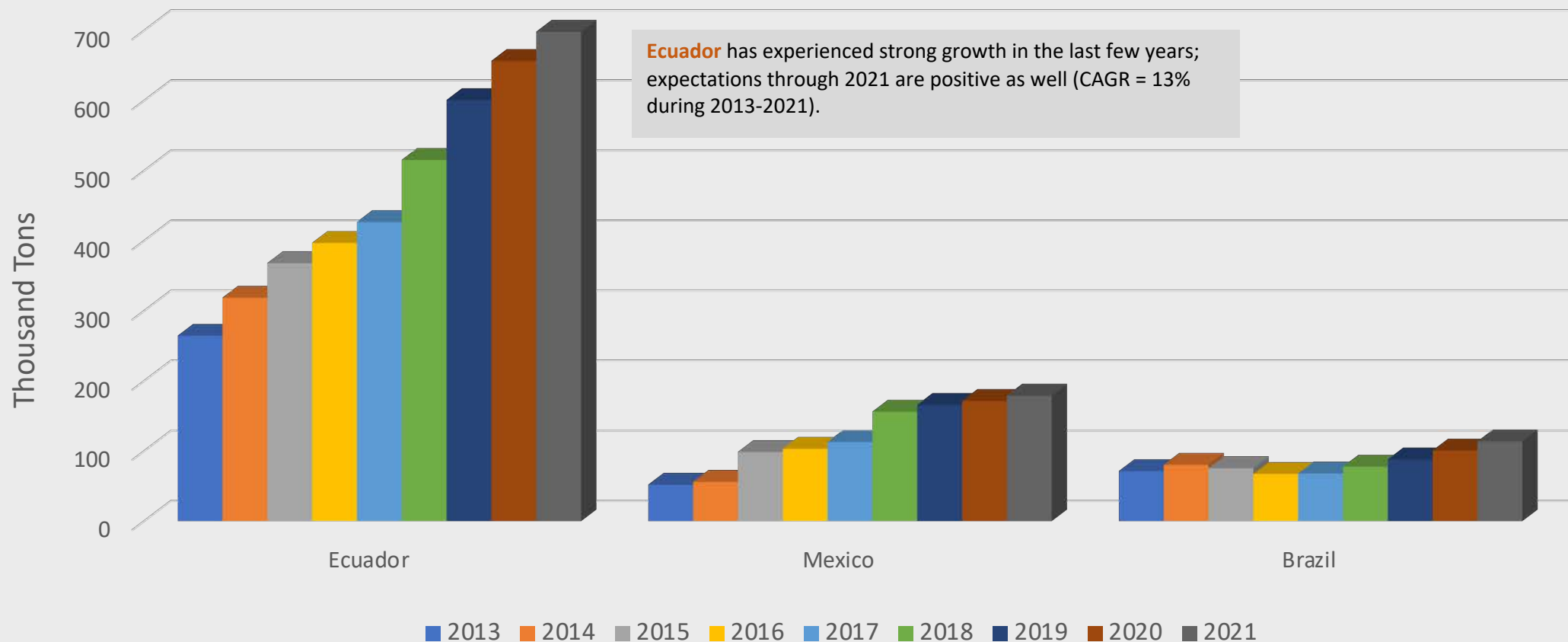
Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.

# Shrimp Aquaculture in Asia: 2013 - 2021



Sources: GOAL (2014-2018) for 2013-2017; GOAL (2019) for 2018-2021.  
Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.

# Shrimp Aquaculture in Latin America: 2013 - 2021

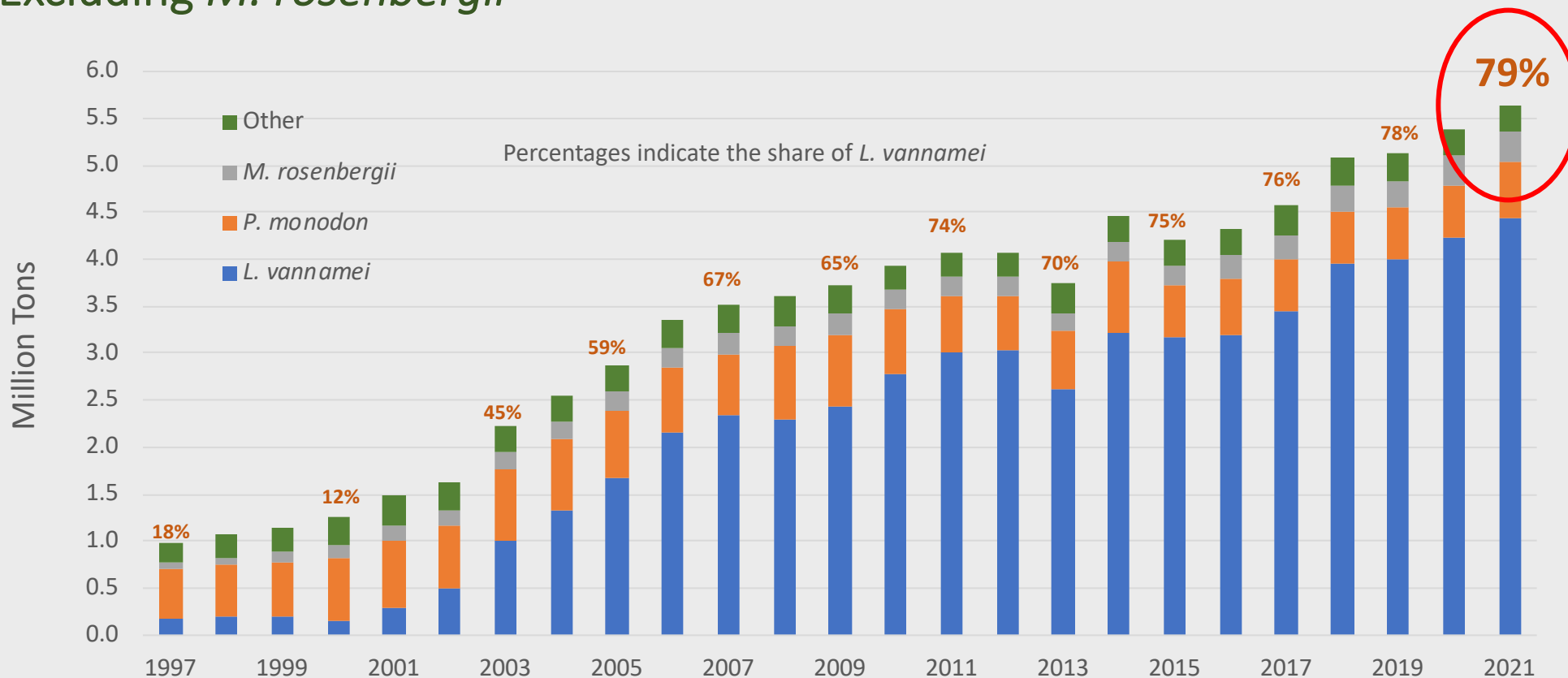


Sources: GOAL (2014-2018) for 2013-2017; GOAL (2019) for 2018-2021.  
Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.



# World Shrimp Aquaculture Production by Species (1997-2021)

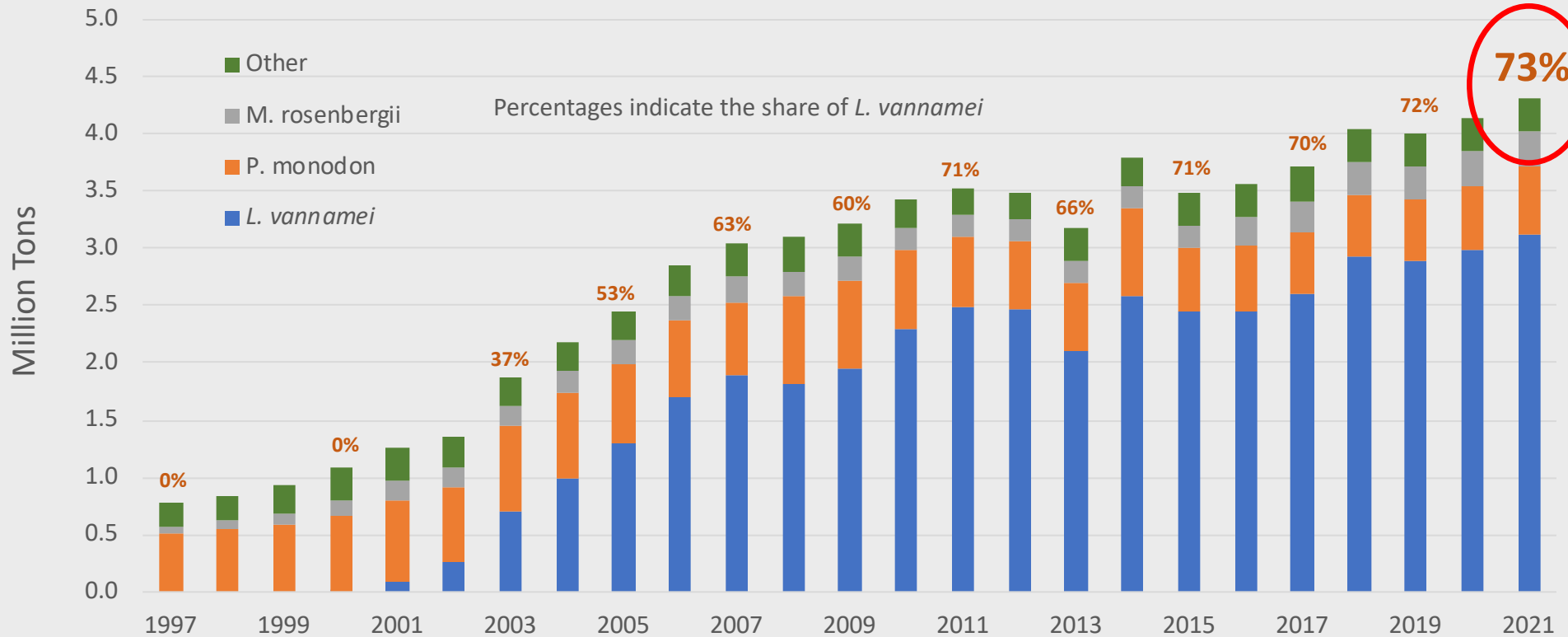
## Excluding *M. rosenbergii*



Sources: FAO (2019) for 1997-2009; GOAL (2011-2018) for 2010-2017; GOAL (2019) for 2018-2021.

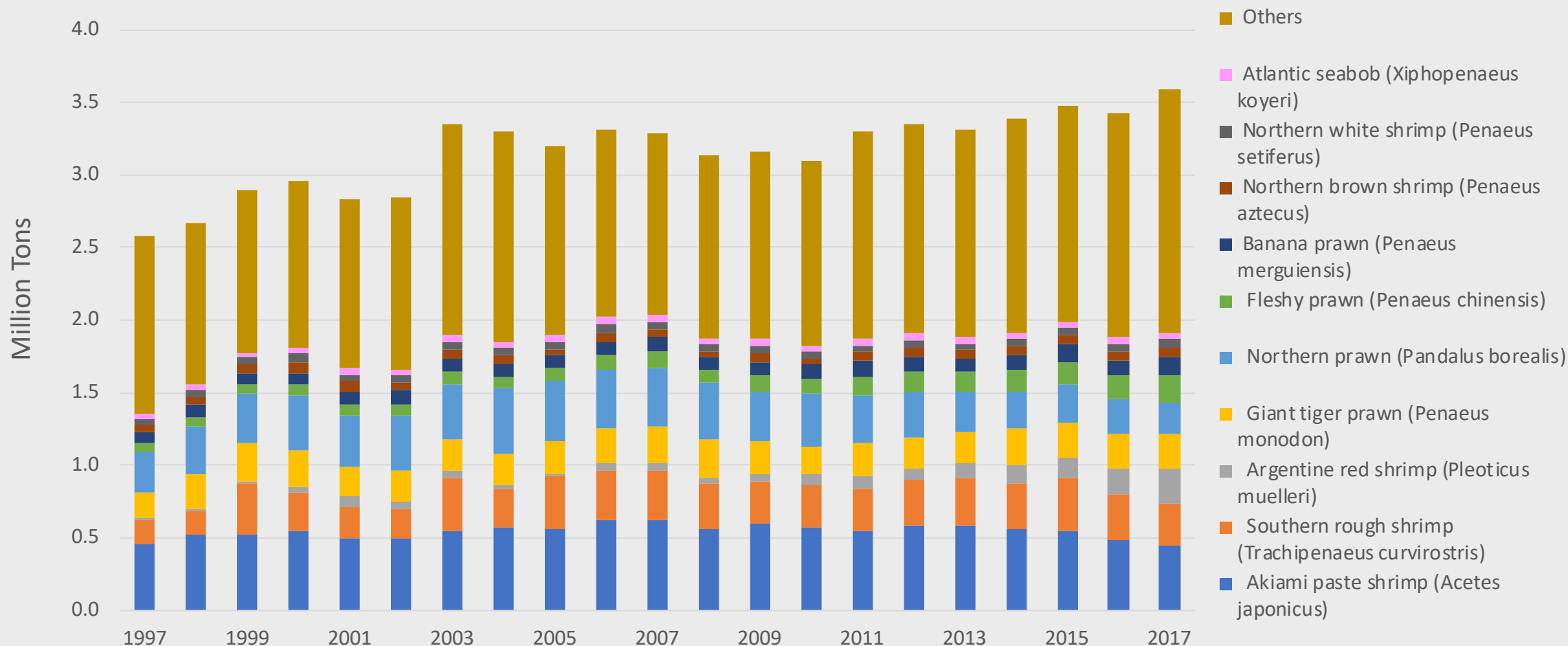
# Shrimp Aquaculture in Asia by Species (1997-2021)

## Including *M. rosenbergii*



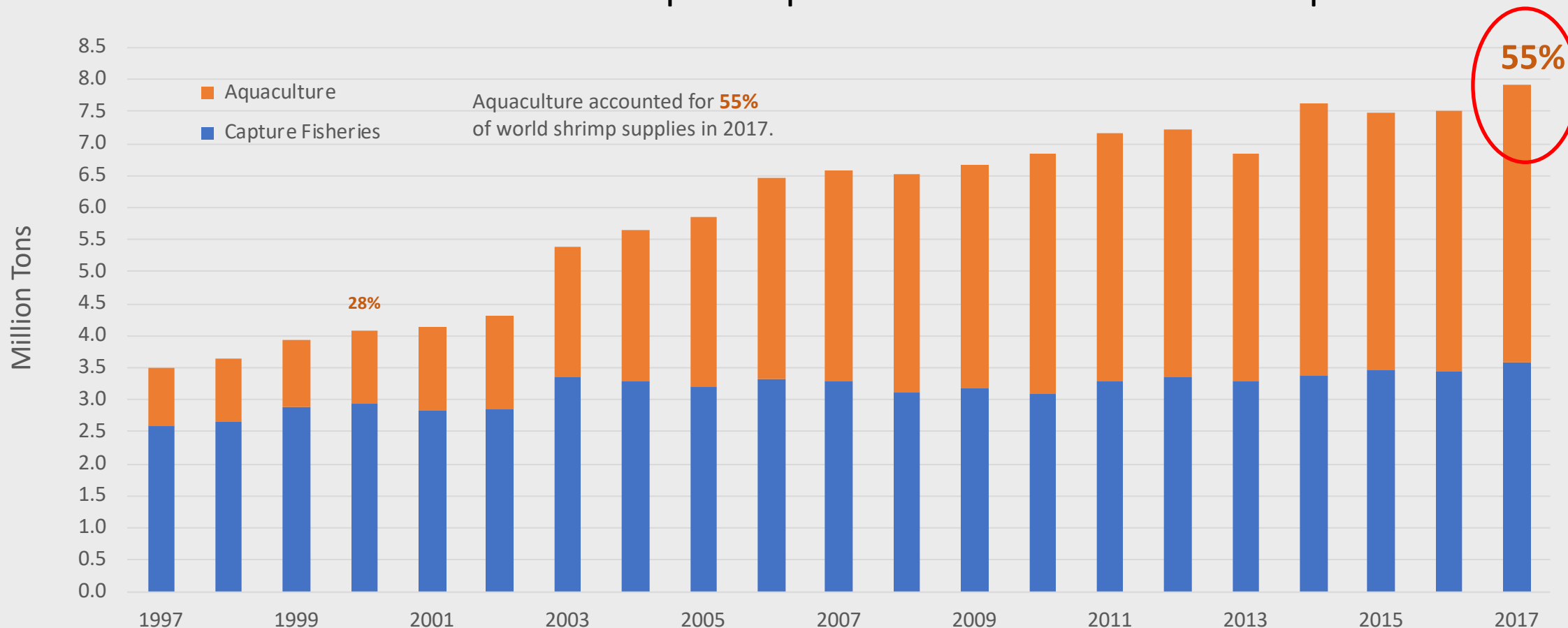
Sources: FAO (2019) for 1997-2009; GOAL (2011-2018) for 2010-2017; GOAL (2019) for 2018-2021.

# World Landings of Wild-Caught Shrimp by Species



Source: FAO (2019).

# World Production of Shrimp: Capture Fisheries and Aquaculture



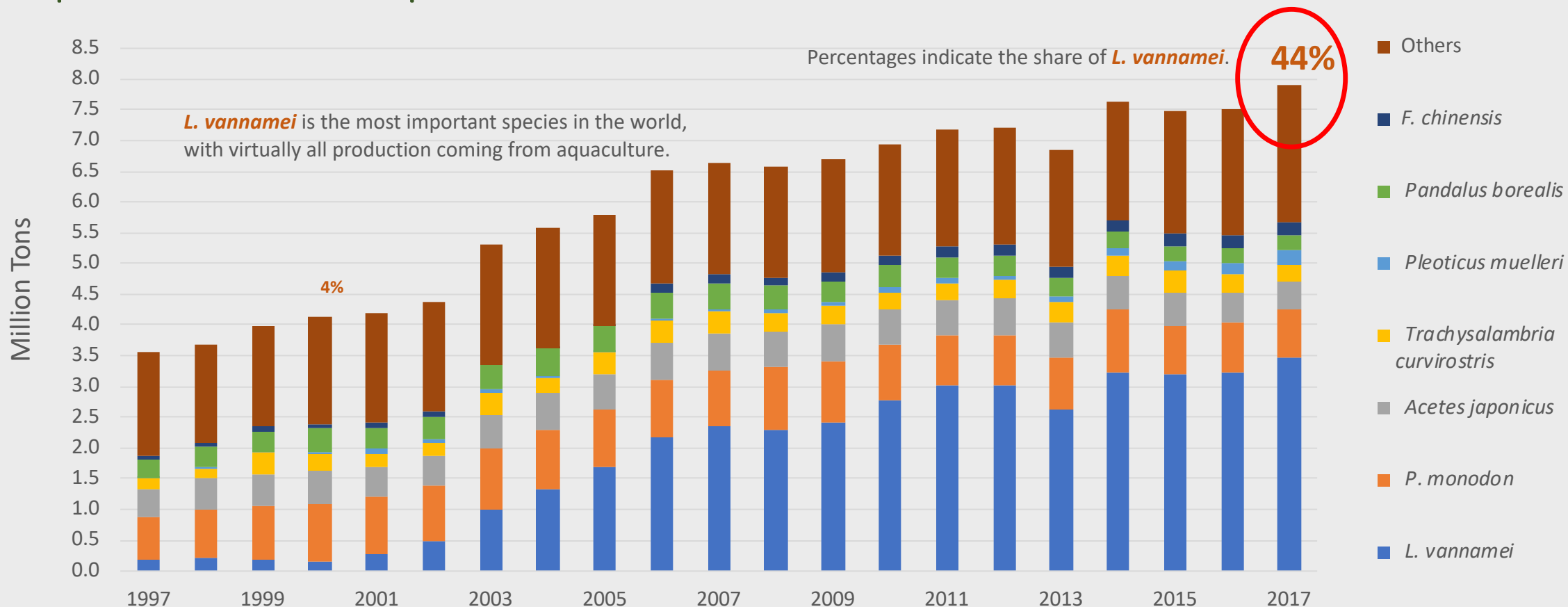
Sources: FAO (2019) and GOAL (2011-2019).

Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.

China includes freshwater production of *L. vannamei*.

# World Production of Shrimp by Species

## Capture Fisheries & Aquaculture Combined



Sources: FAO (2019) and GOAL (2011-2019).

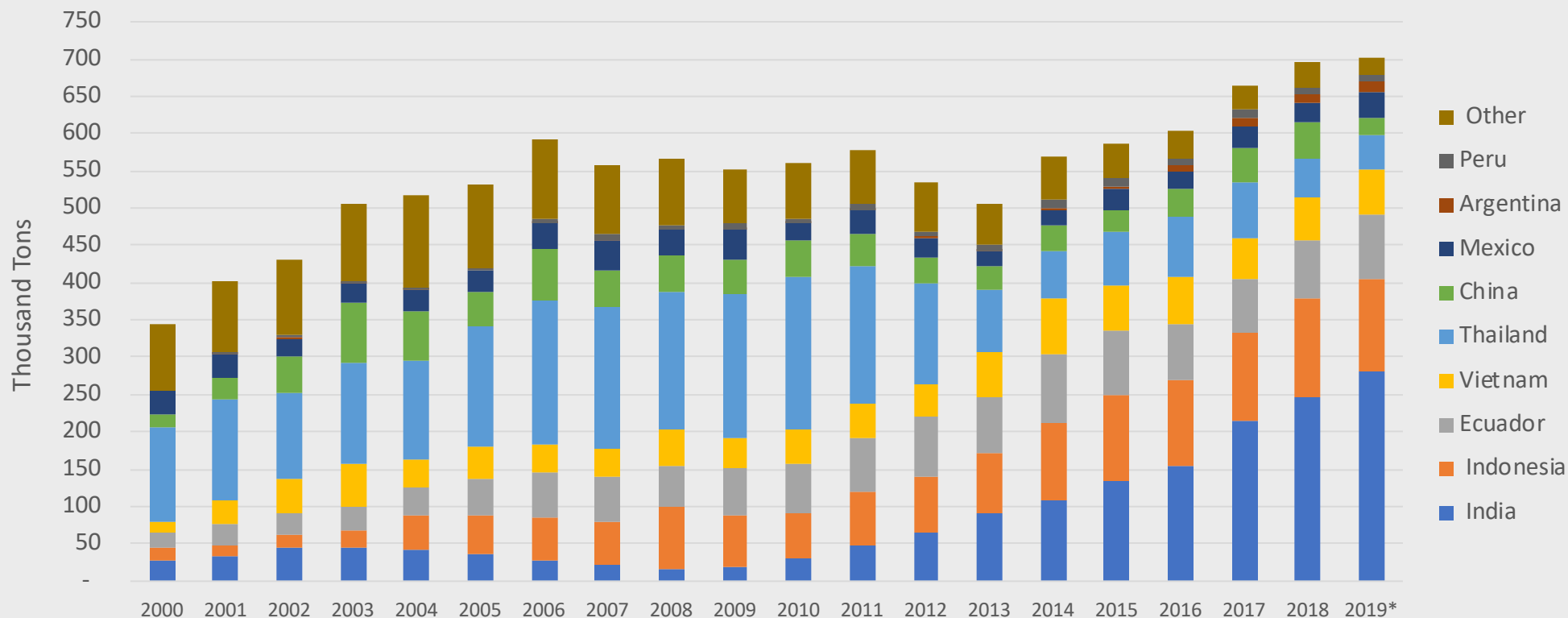
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China includes freshwater production of *L. vannamei*.

# Trade

# U.S. Shrimp Imports

Down 12% between 2011-13, Up 39% between 2013-19



Imports from Thailand declined sharply (by 79%) between 2010 and 2019.

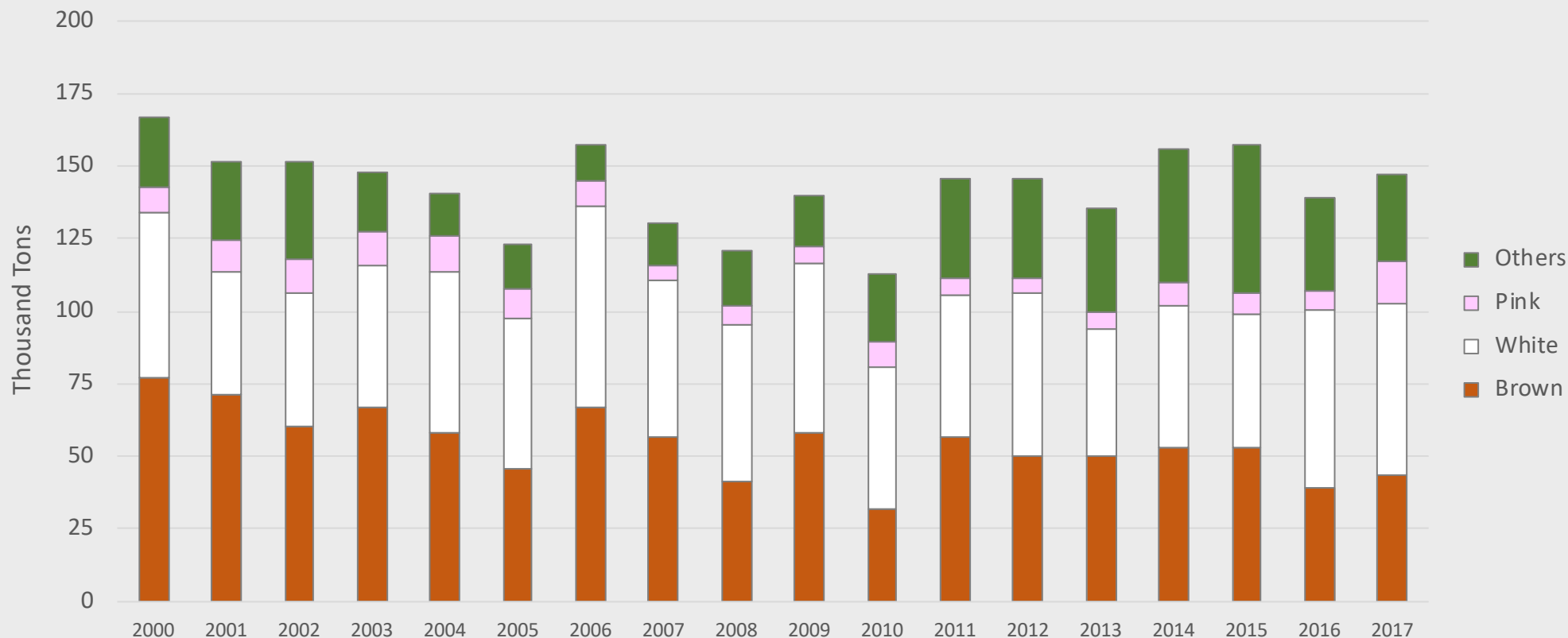
India and Indonesia have become the top exporters to the U.S. market, accounting for 58% of imports in 2019.

India's exports have increased at a CAGR of 30% between 2008 and 2019.

Source: USDC/NMFS (2019)

\* Estimate

# U.S. Landings of Wild-Caught Shrimp

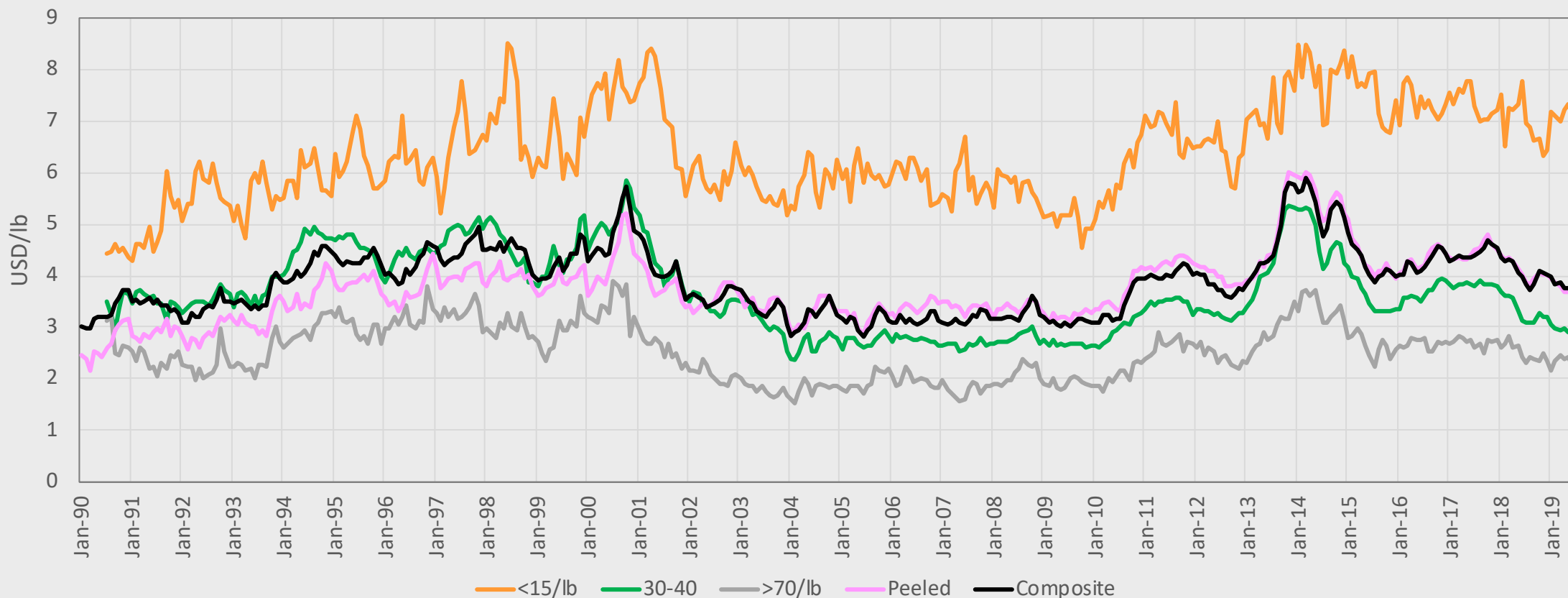


Source: USDC/NMFS (2019)



# Trends in U.S. Shrimp Import Prices

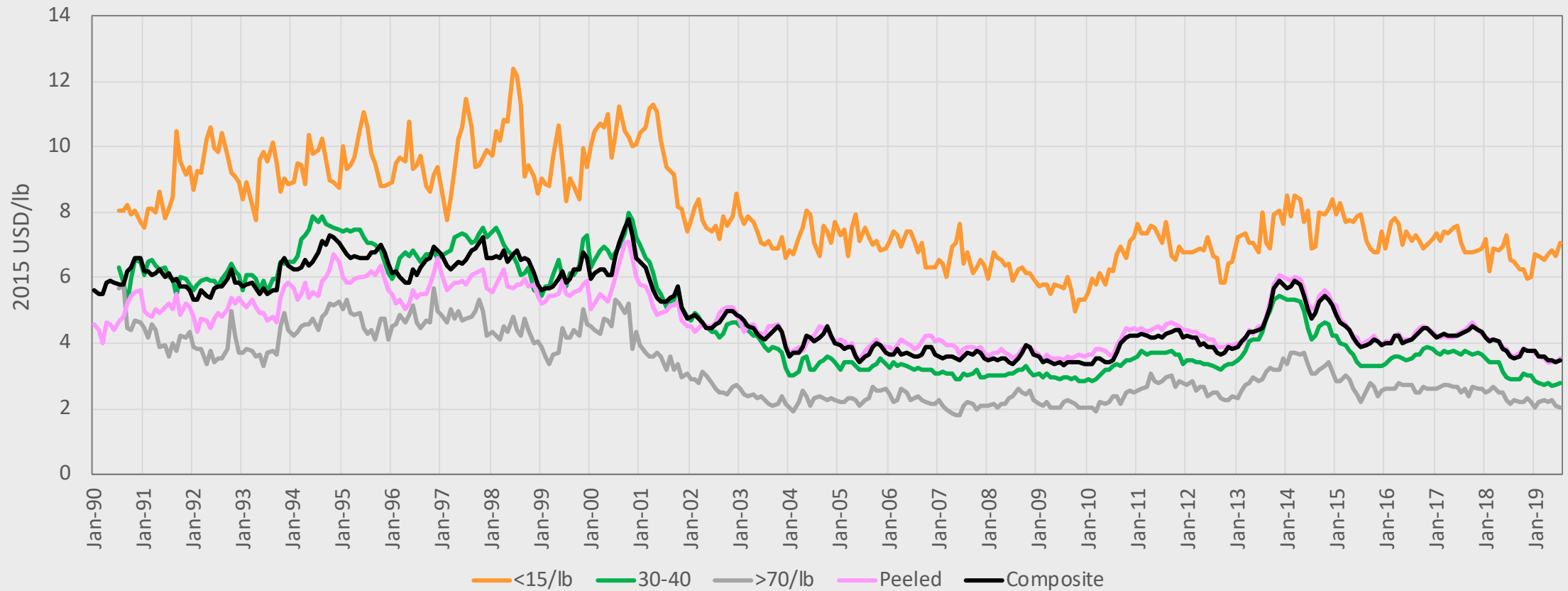
Nominal Prices



Nominal prices increased sharply in 2013  
Source: USDC/NMFS (2019)

# Trends in U.S. Shrimp Import Prices

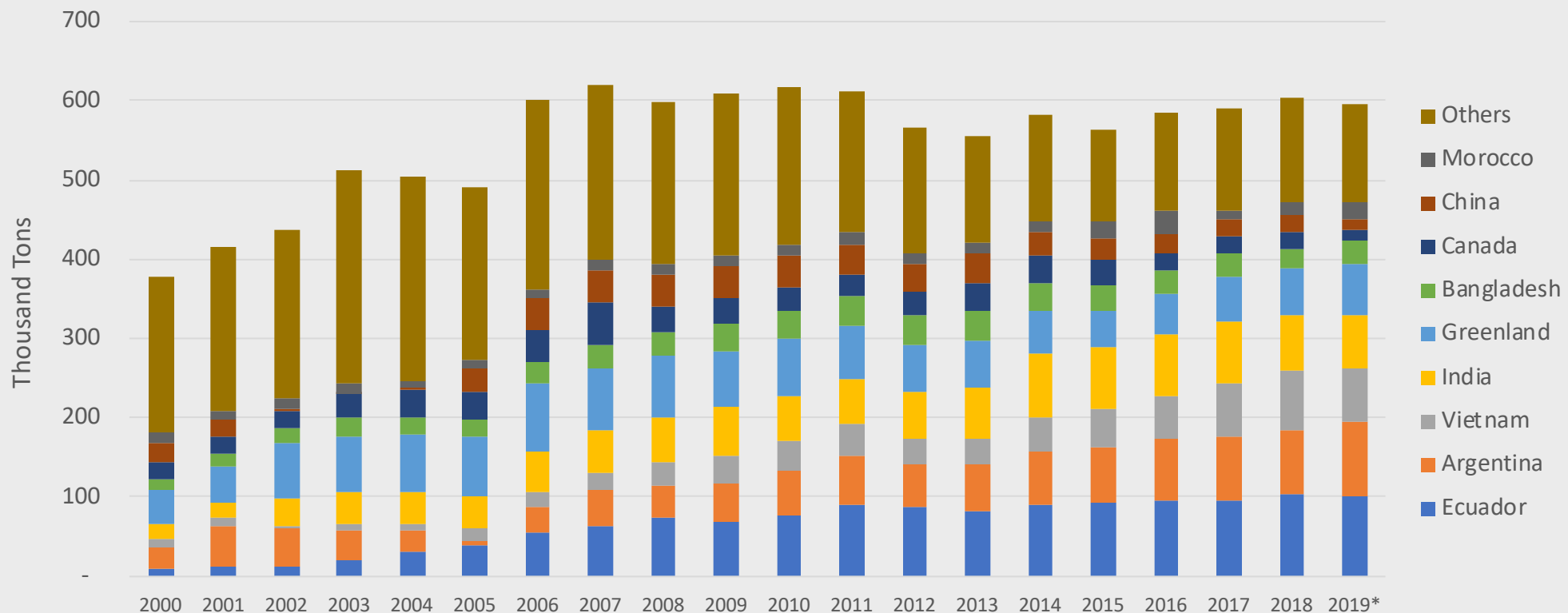
Real Prices



Real prices increased sharply in 2013  
Source: USDC/NMFS (2019)

# European Shrimp Imports from Extra-EU Countries

Down 9% between 2010-15; Up 6% between 2015-19

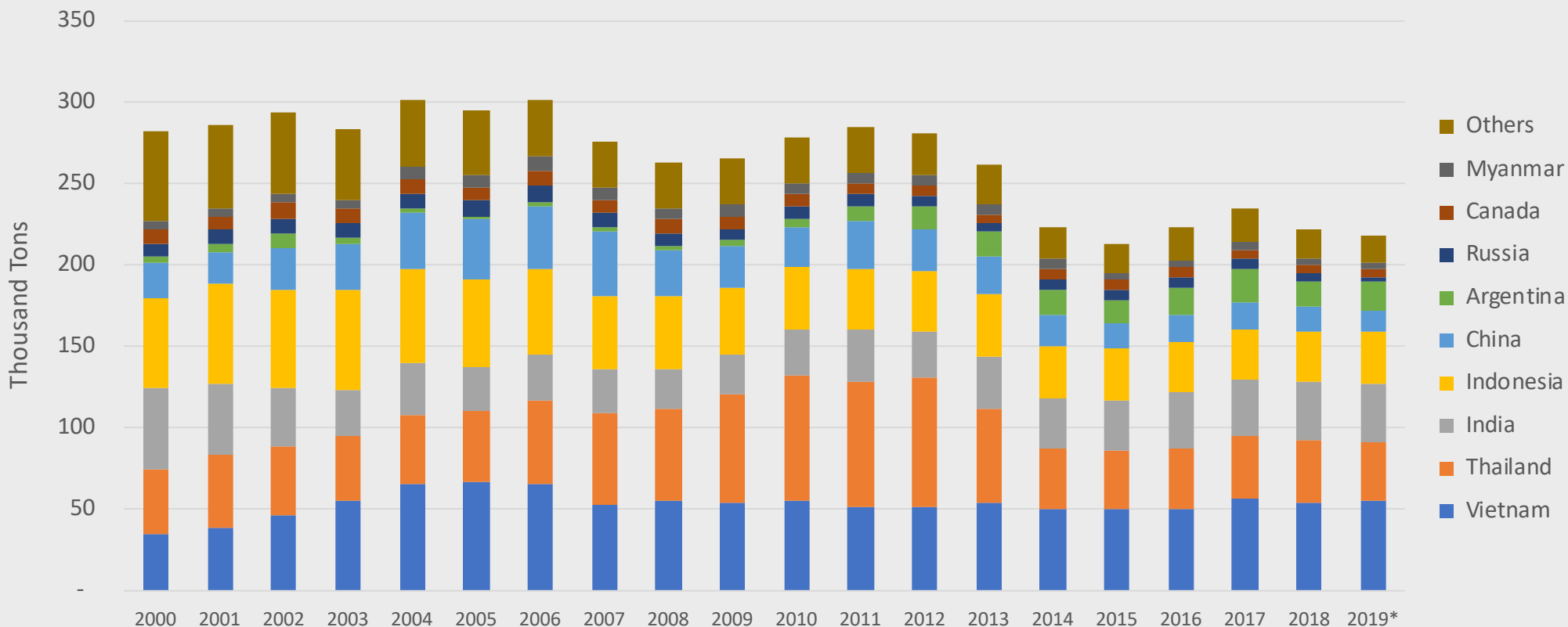


The European market contracted during 2010-2015 but it has partially recovered since then, driven by imports from Ecuador, Argentina, Vietnam and India. However, the U.S. market has experienced faster growth in recent years.

Source: Eurostat (2019)  
\* Estimate

# Japanese Shrimp Imports

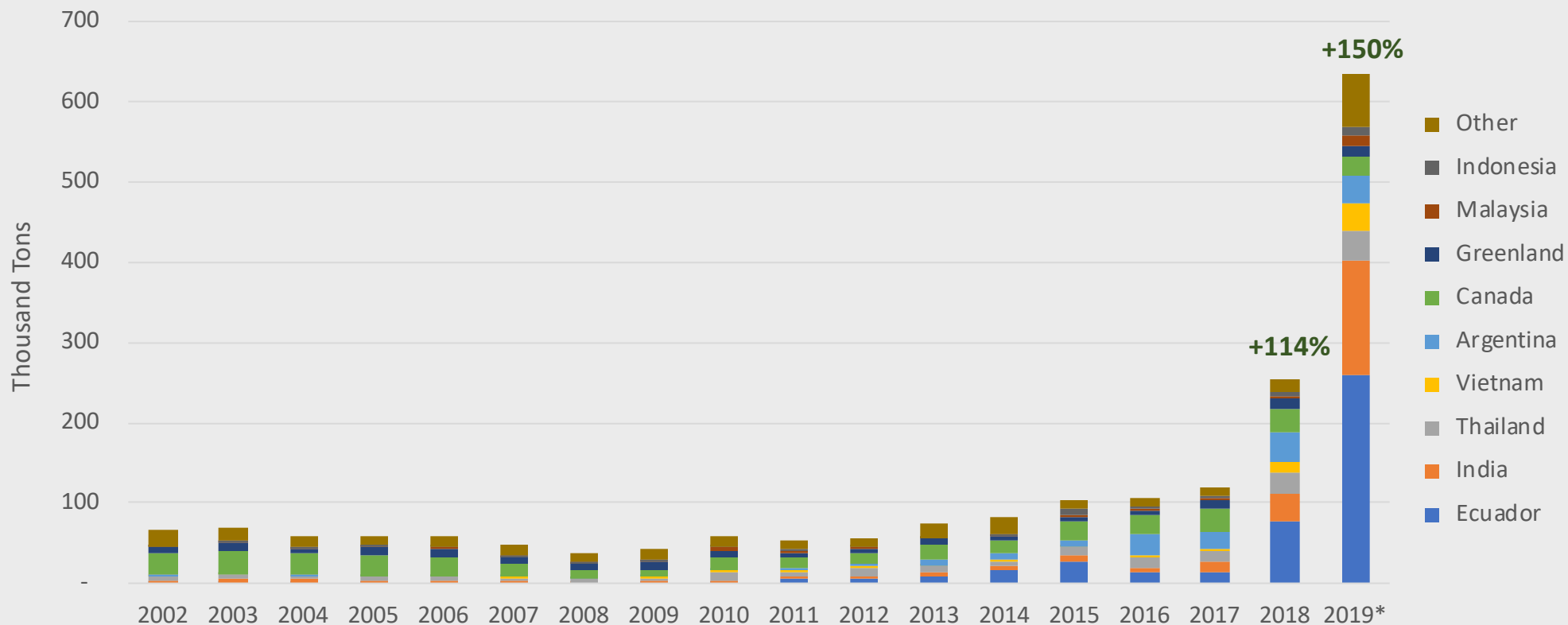
Down 23% between 2011-19



Source: Japan Customs (2019)  
\* Estimate

# Chinese Shrimp Imports

## Official Trade Channels

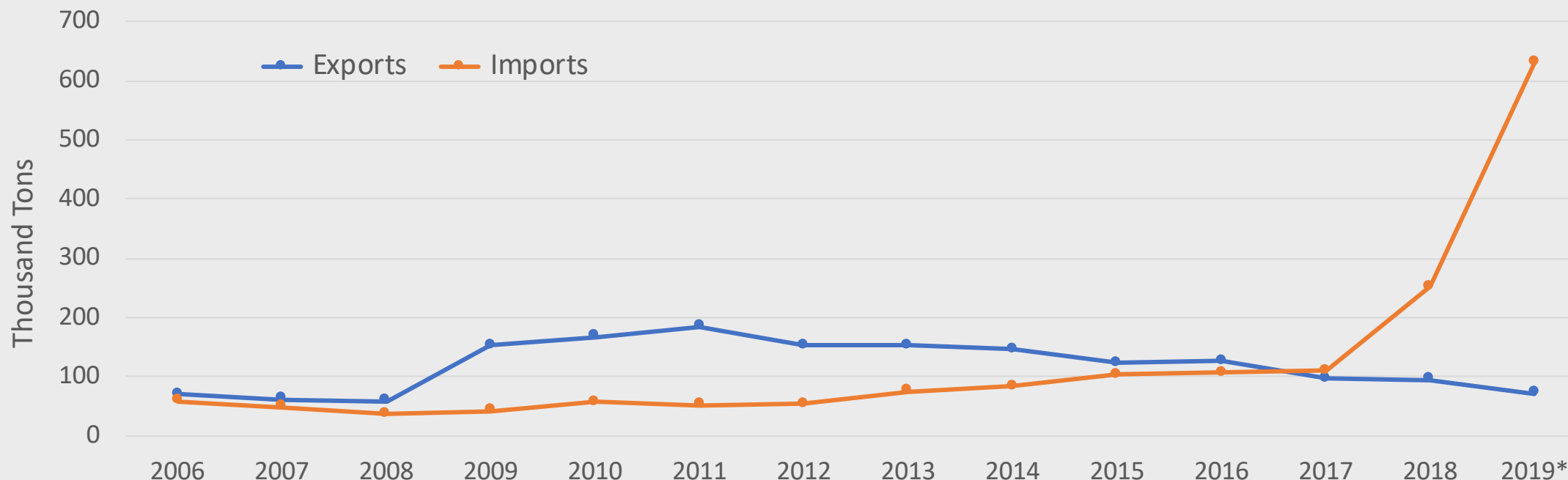


Sources: World Integrated Trade Solution (2019); International Trade Center (2019); Chinese Customs (2019).

\* Estimate.

# China – Exports and Imports of Frozen Shrimp

## Official Trade Channels

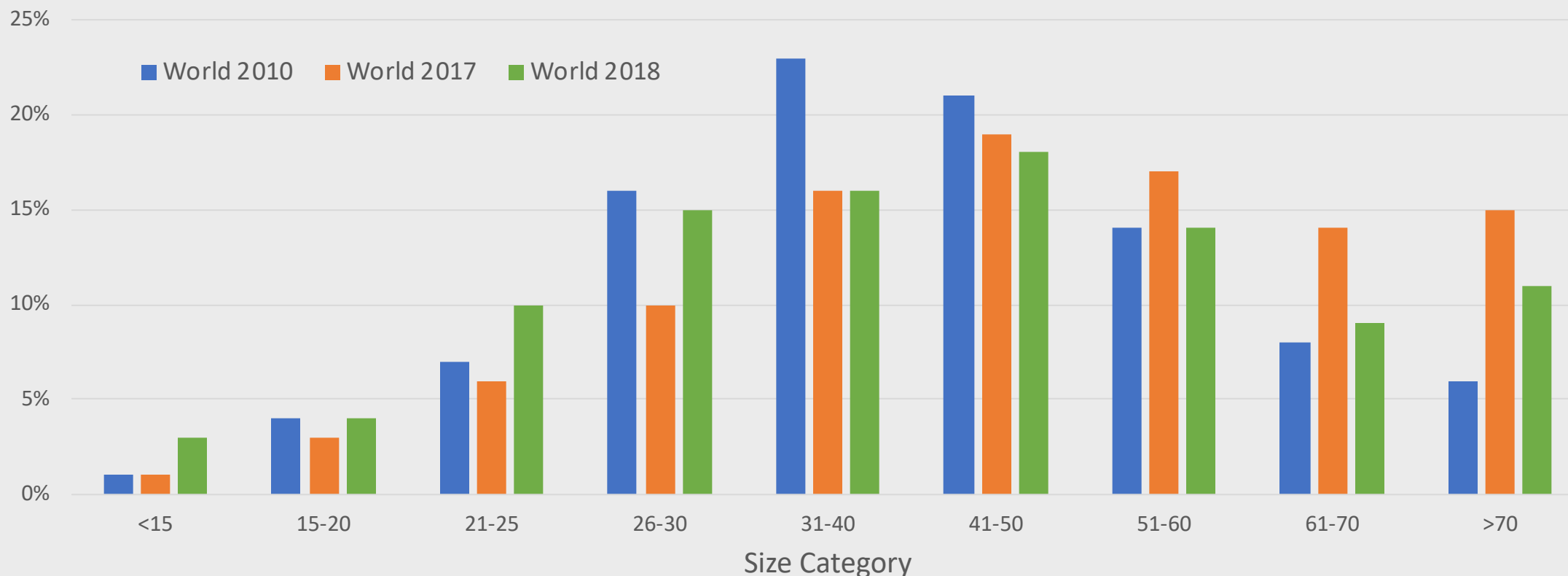


Sources: World Integrated Trade Solution (2019); International Trade Center (2019); Chinese Customs (2019).

\* Estimate.

# Composition of Shrimp Aquaculture by Size Categories

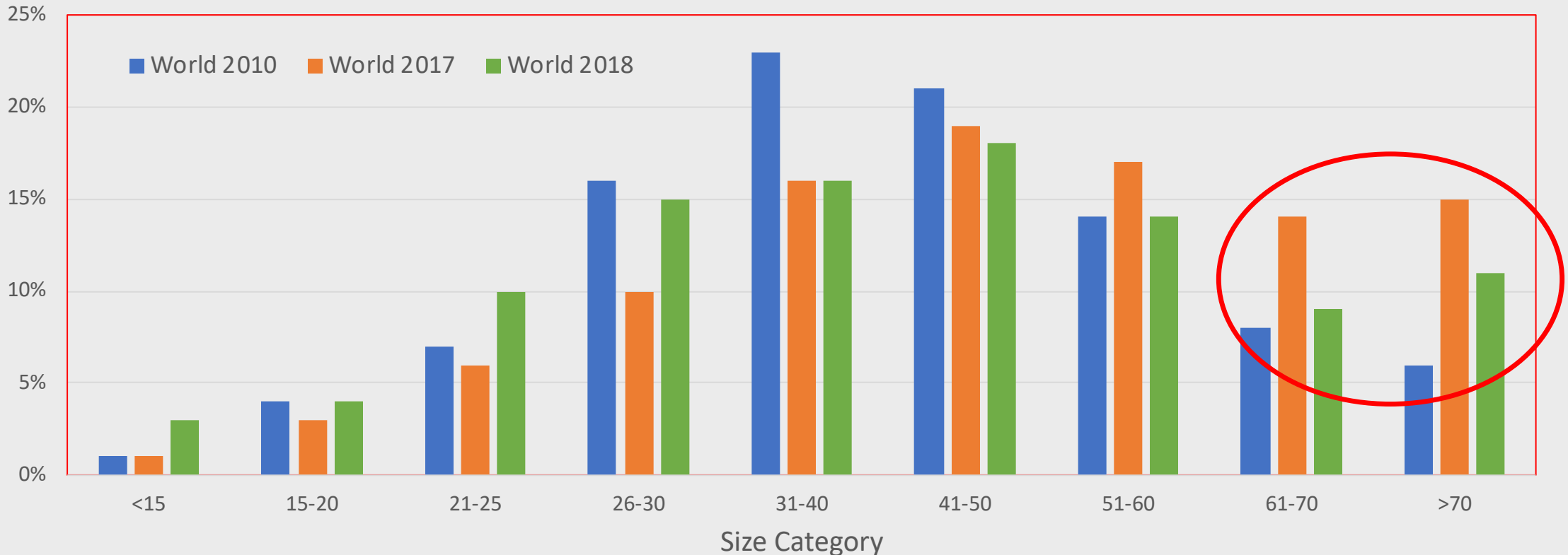
World 2010 vs. World 2017 vs. World 2018



Sources: GOAL (2011, 2018, 2019).

# Composition of Shrimp Aquaculture by Size Categories

World 2010 vs. World 2017 vs. World 2018



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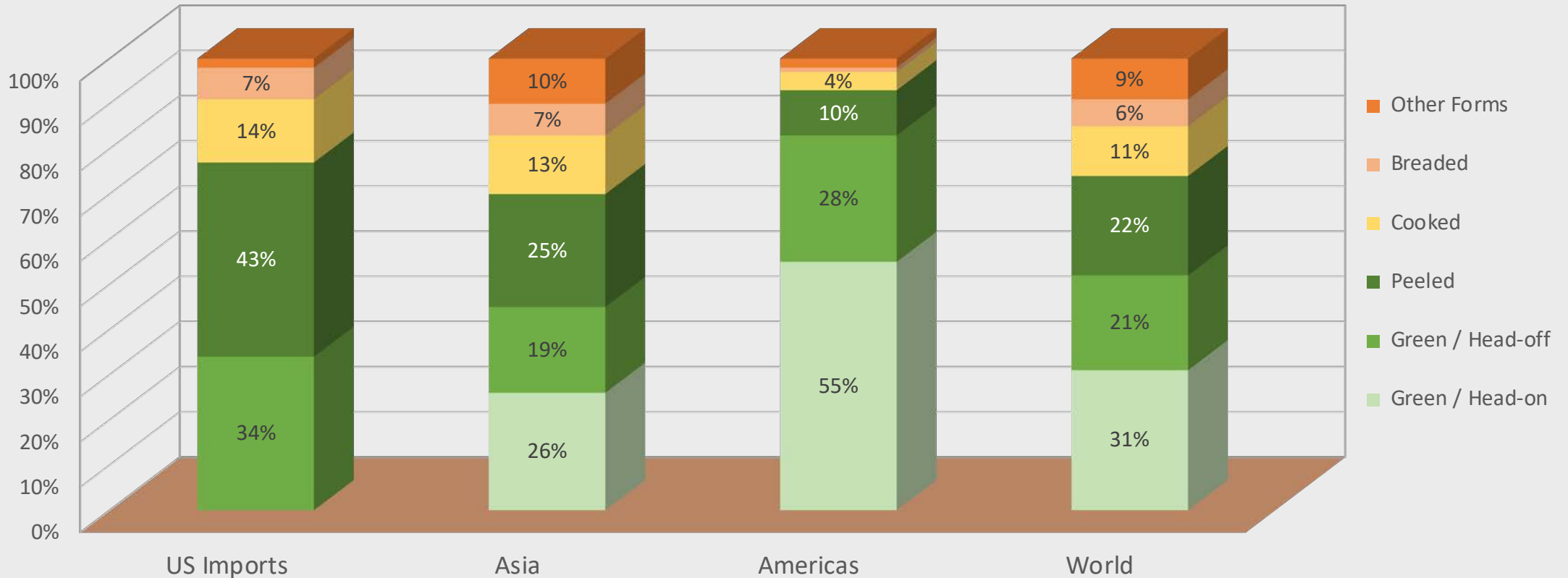


# Expected Trends in Shrimp Aquaculture

## Size Categories – GOAL Survey 2019

Size Category	Asia	Americas	World
<15	Stable	Increase	Stable
15-20	Decrease	Stable / Decrease	Decrease
21-25	Stable	Increase	Stable / Increase
26-30	Stable / Increase	Increase	Increase
31-40	Stable / Increase	Stable	Stable / Increase
41-50	Stable / Decrease	Decrease	Stable / Decrease
51-60	Increase	Decrease	Increase
61-70	Increase	Stable / Increase	Increase
>70	Increase	Increase	Increase

# Composition of Shrimp Aquaculture by Product Form Aggregate 2018



Source: GOAL (2019).

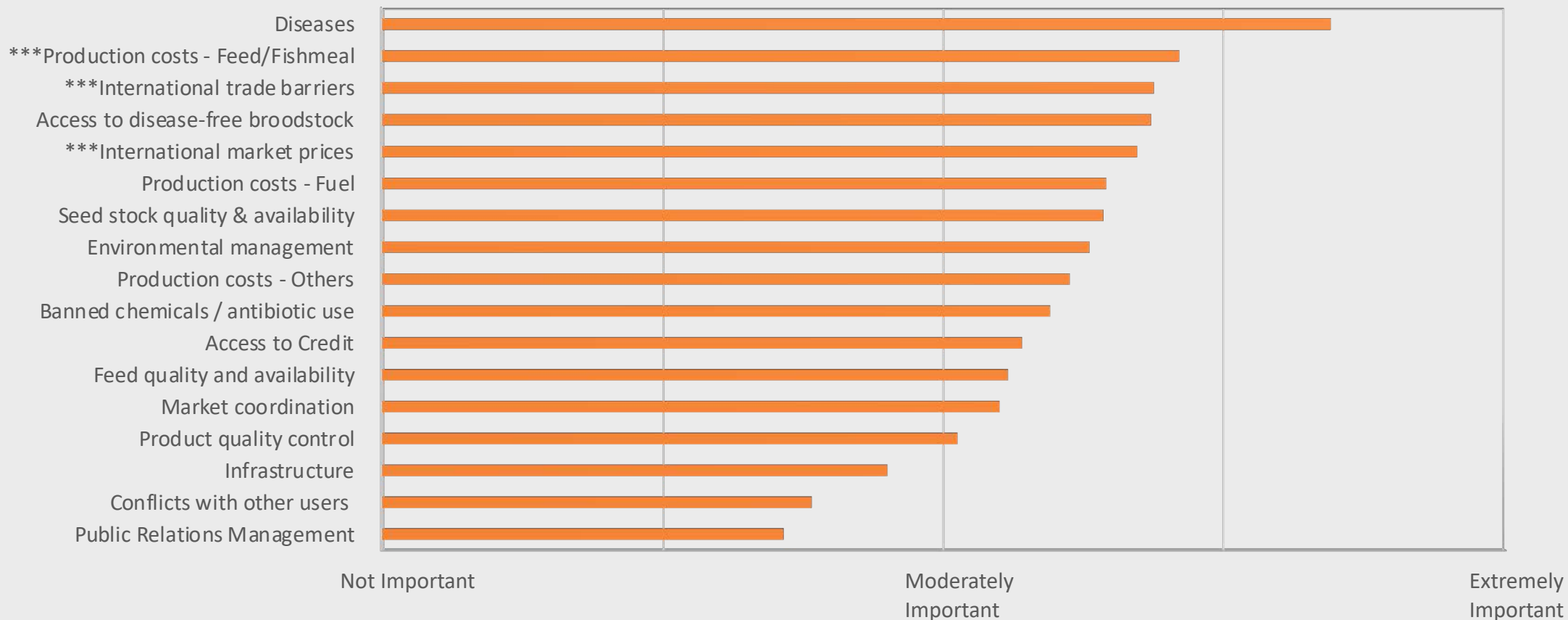
# Expected Trends in Shrimp Aquaculture

## Product Forms – GOAL Survey 2019

Product Form	Asia	Americas	World
Green / Head-on	Stable / Increase	Increase	Increase
Green / Head-off	Stable / Increase	Decrease	Stable
Peeled	Decrease	Increase	Stable / Decrease
Cooked	Increase	Stable	Increase
Breaded	Increase	Stable	Increase
Other Forms	Stable / Decrease	Stable	Stable / Decrease

# Issues and Challenges in Shrimp Aquaculture

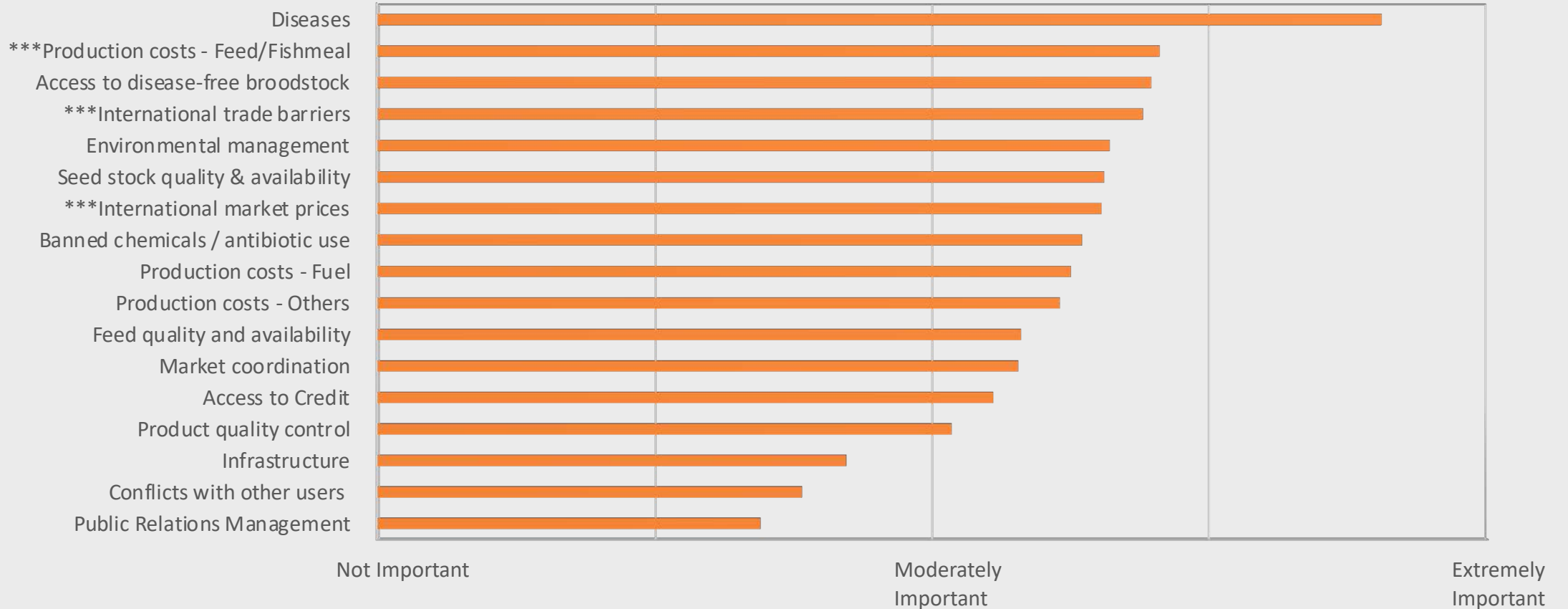
## GOAL 2019 Survey – All Countries



Asterisks indicate a Top 3 issue in GOAL 2007 Survey

# Issues and Challenges in Shrimp Aquaculture

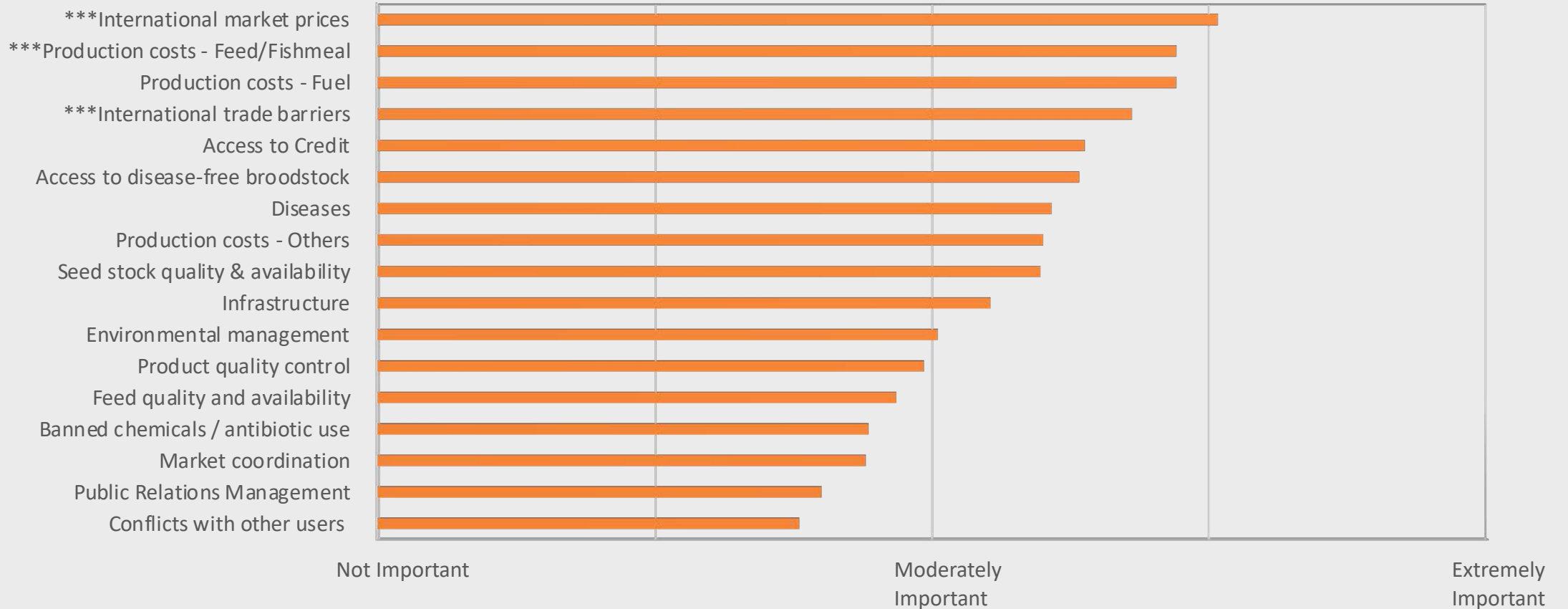
## GOAL 2019 Survey – Asia



Asterisks indicate a Top 3 issue in GOAL 2007 Survey

# Issues and Challenges in Shrimp Aquaculture

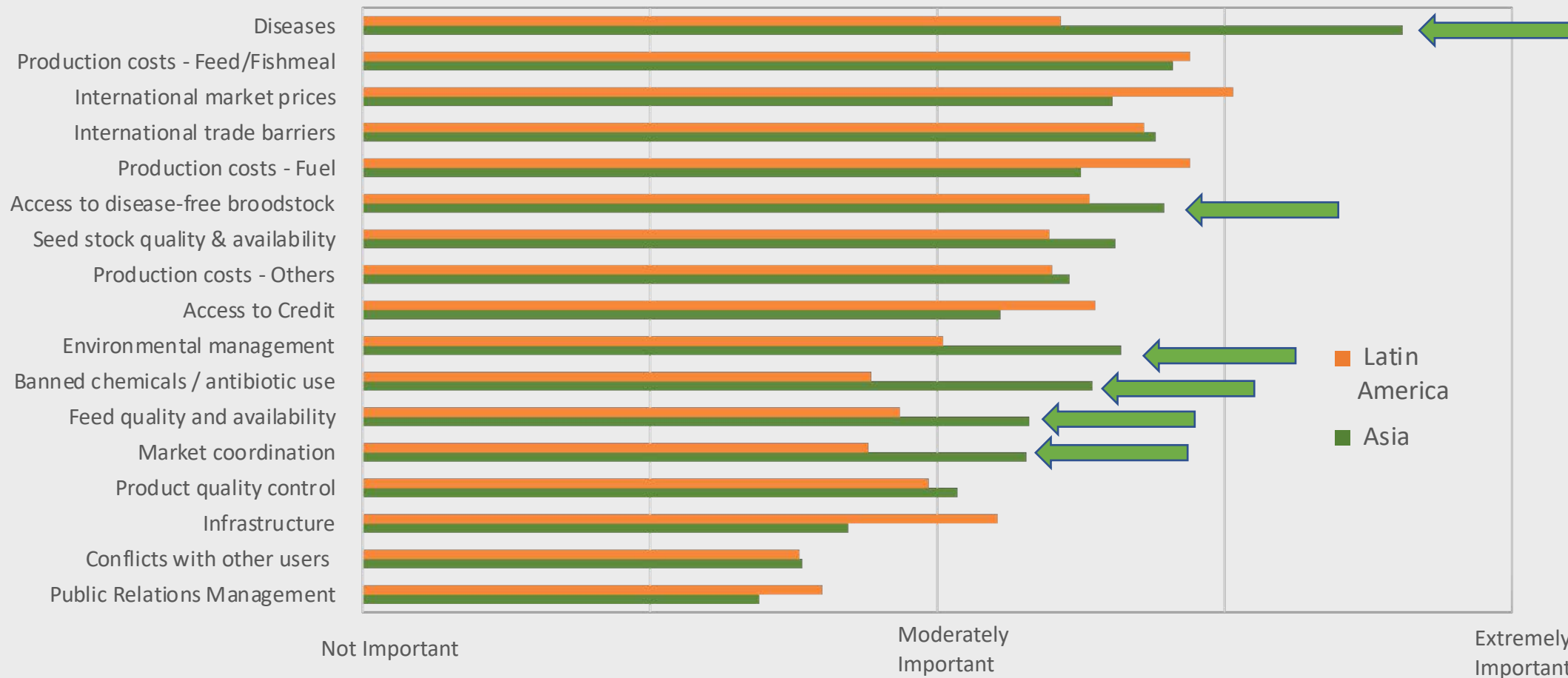
## GOAL 2019 Survey – Latin America



Asterisks indicate a Top 3 issue in GOAL 2007 Survey

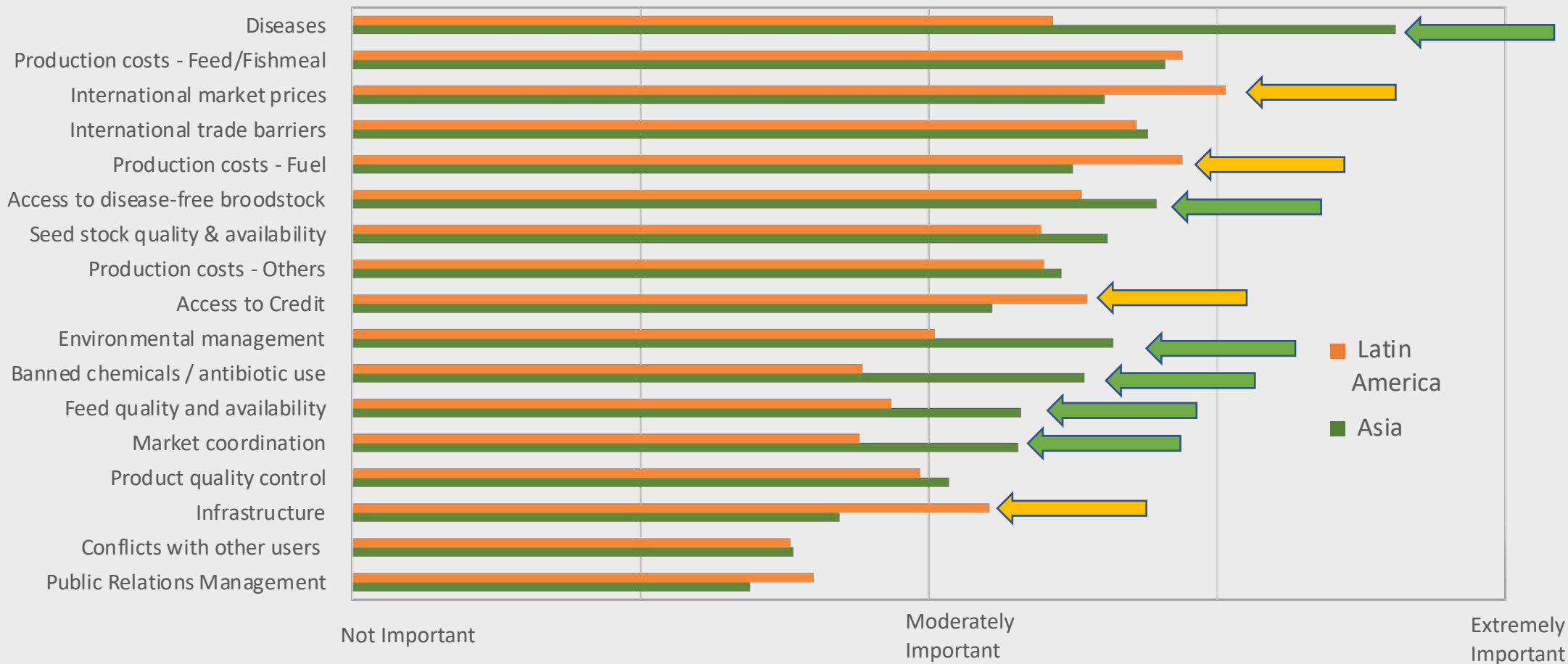
# Top Issues and Challenges in Shrimp Aquaculture – GOAL 2019 Survey

## Asia vs. Latin America



# Top Issues and Challenges in Shrimp Aquaculture – GOAL 2019 Survey

## Asia vs. Latin America





# Global Economic Conditions Will Be Better in 2020 Compared to 2019

GOAL Survey 2019

Outlook	Asia	Americas	Others
Strongly Agree	Philippines		
Agree	Bangladesh, Indonesia, Taiwan, Vietnam		
Neutral / No Opinion	China, Thailand	Ecuador, Mexico, Nicaragua, Venezuela	Egypt, New Caledonia
Disagree	India, Malaysia	Belize, Brazil, Colombia, Costa Rica, Honduras, Peru	Australia, Madagascar
Strongly Disagree		Guatemala	

# The Global Shrimp Market Will Strengthen in 2020 Compared to 2019

GOAL Survey 2019

Outlook	Asia	Americas	Others
Strongly Agree			
Agree	Bangladesh, China, Indonesia, Philippines, Taiwan, Vietnam	Ecuador, Guatemala	Egypt, New Caledonia
Neutral / No Opinion	India, Malaysia, Thailand	Mexico, Nicaragua, Venezuela	Australia
Disagree		Belize, Brazil, Colombia, Costa Rica, Honduras, Peru	Madagascar
Strongly Disagree			

# Feed Prices Will Be Lower in 2020 Compared to 2019

GOAL Survey 2019

Outlook	Asia	Americas	Others
Strongly Agree			
Agree		Brazil	
Neutral / No Opinion	Indonesia, Malaysia, Taiwan	Ecuador, Mexico, Peru	Madagascar
Disagree	Bangladesh, China, India, Philippines, Thailand, Vietnam	Belize, Colombia, Costa Rica, Honduras, Nicaragua, Venezuela	Australia, Egypt, New Caledonia
Strongly Disagree		Guatemala	

## *Conclusions*

### *Top 4 Challenges to Growth*

#### *Asia*

*Diseases (2018 – same)*

*Costs – Feed (2018 - Antibiotic Use)*

*Access to Disease-Free Broodstock (2018 - International Prices)*

*Trade Barriers ( 2018- Costs-Feed)*

#### *Americas*

*International Market Prices (2018 - same)*

*Costs-Feed (2018 - same)*

*Costs-Fuel (2018 - Disease)*

*Trade Barriers (2018 - Access to Credit)*

## *Conclusions*

*Real Shrimp Prices - Lowest in over 30 years*

*Global Shrimp Production Expectations*

*2018-19 +1%*

*2018-2021 +3.5% per year*

*2021 is expected to be +11% above 2018*

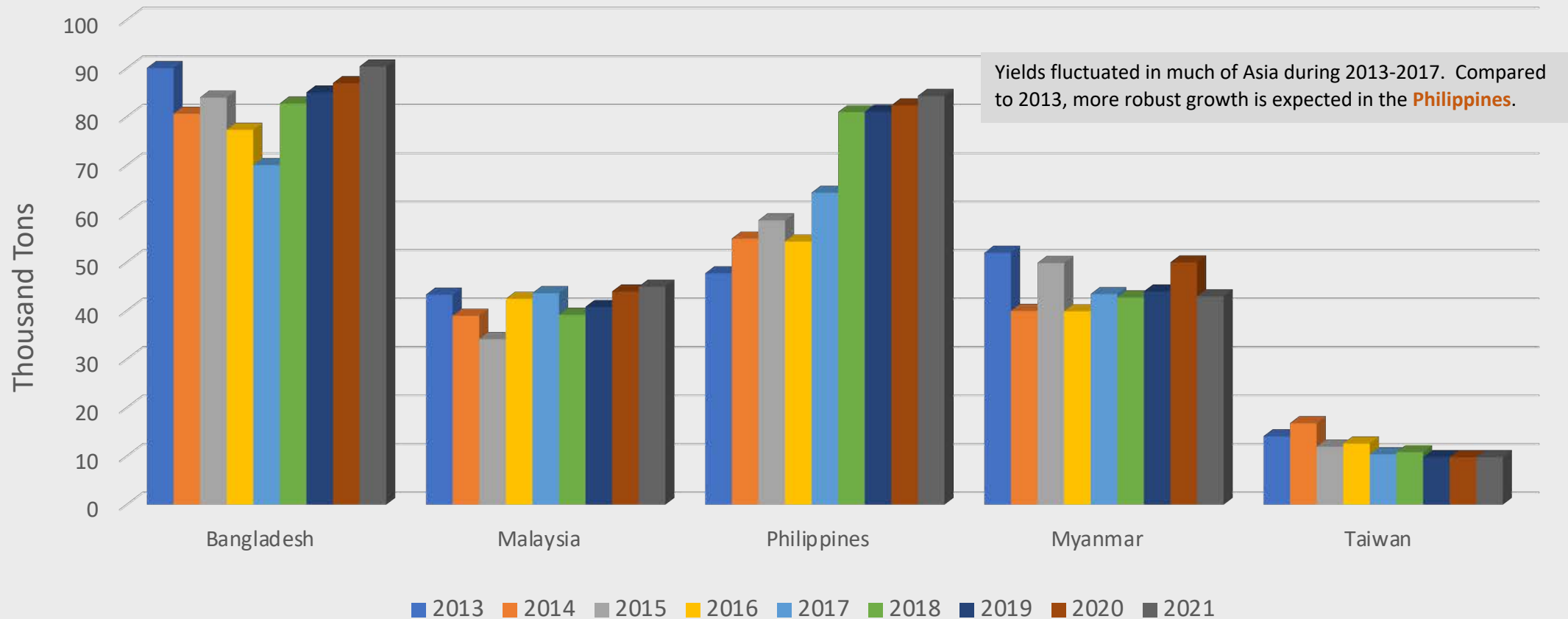
*The Global Market should be able to absorb these modest increases without further price declines...but there are disease uncertainties, a serious trade war, and global economic expectations, especially for China, are difficult to assess*



Thank You!

# Appendix

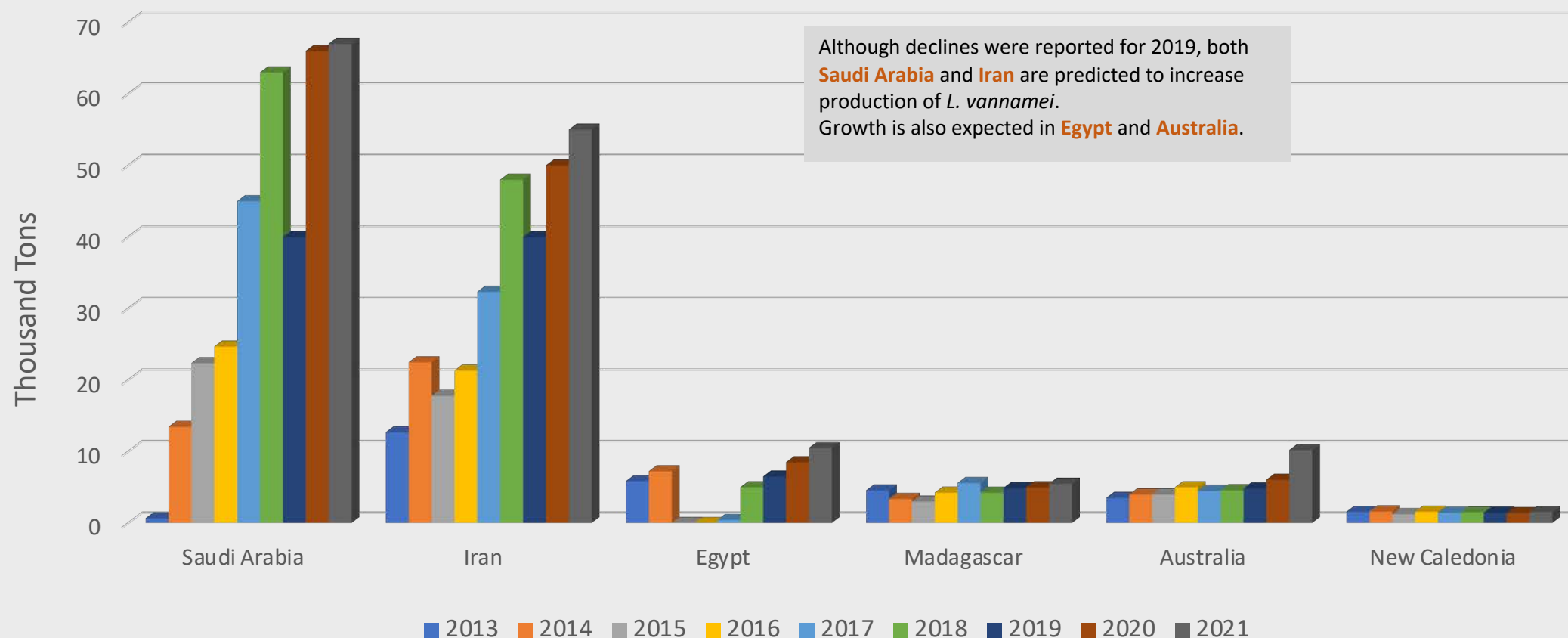
# Shrimp Aquaculture in Asia: 2013 - 2021



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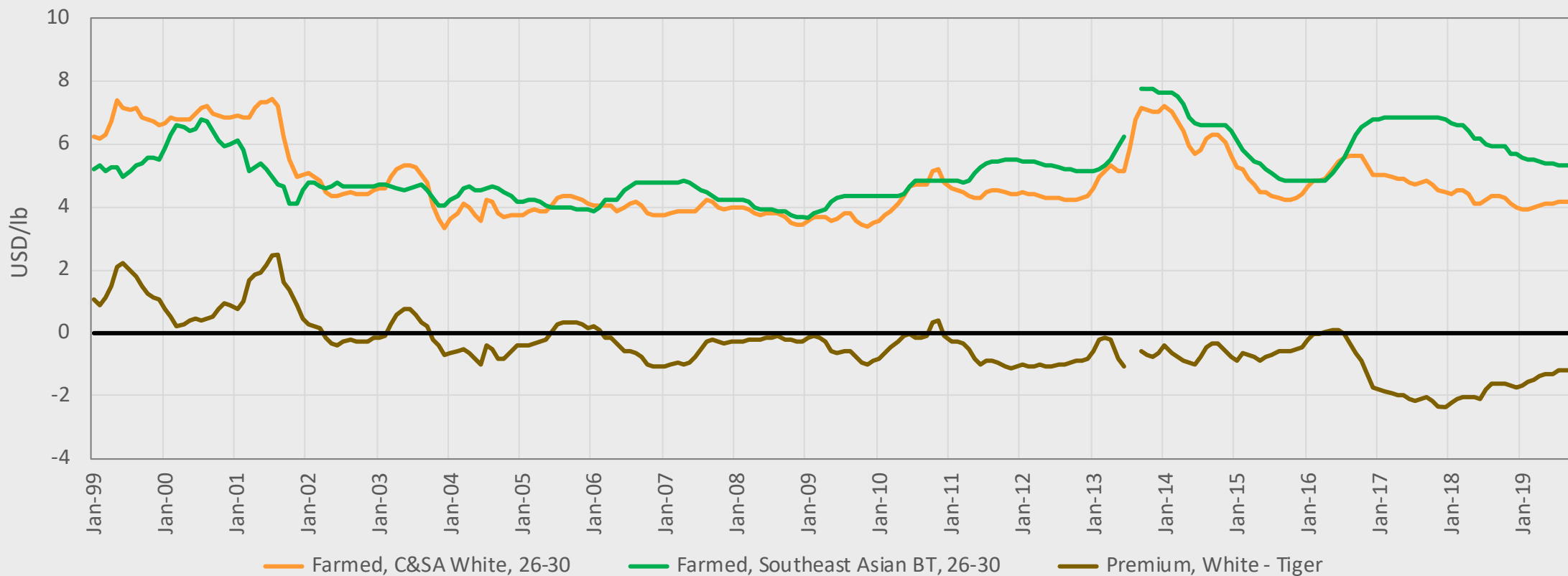
# Shrimp Aquaculture in Other Reporting Countries: 2013 - 2021



Sources: GOAL (2014-2018) for 2013-2017; GOAL (2019) for 2018-2021.  
Species included are *L. vannamei*, *P. monodon* and Other. *M. rosenbergii* is excluded.

# *P. Monodon* vs. *L. vannamei*

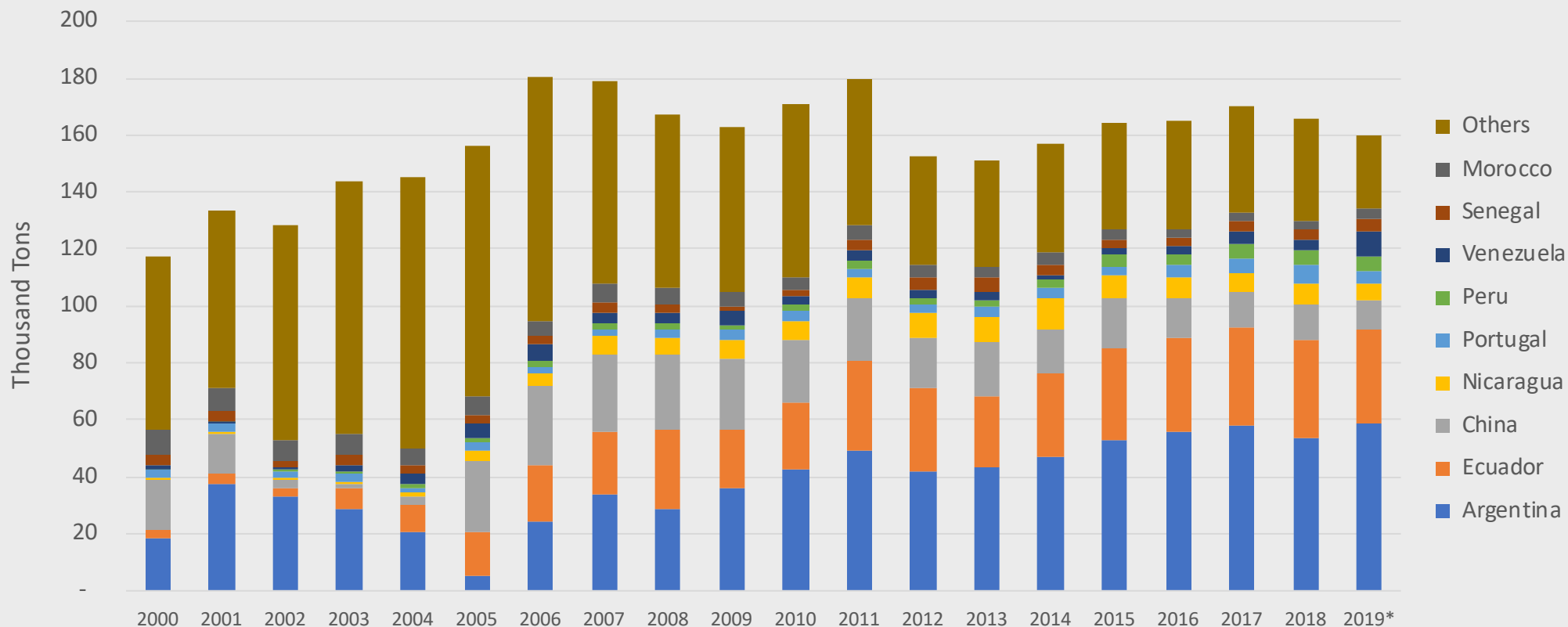
U.S. Wholesale Prices



Source: Urner Barry (2019).

# Spanish Shrimp Imports

Down 16% between 2011-13; Up 13% between 2013-17; Down 6% between 2017-19

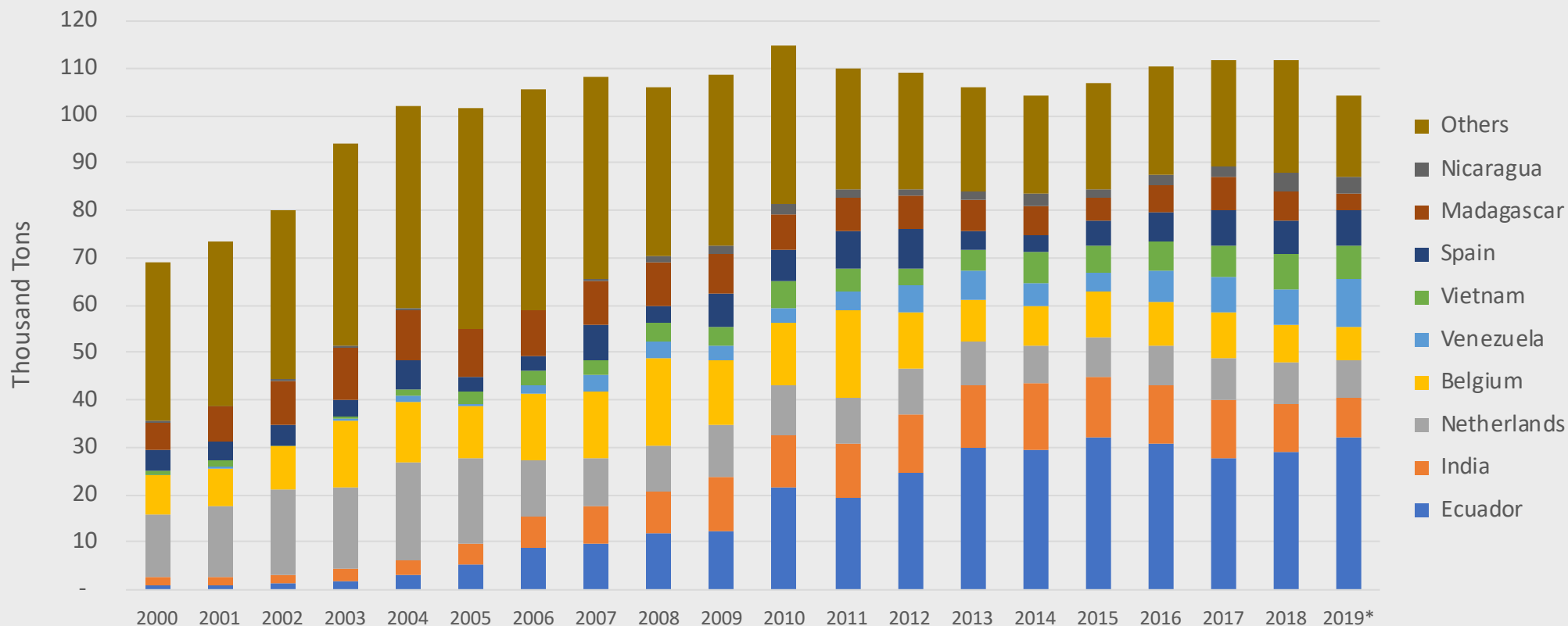


Source: Eurostat (2019)

\* Estimate

# French Shrimp Imports

Down 9% between 2010-19

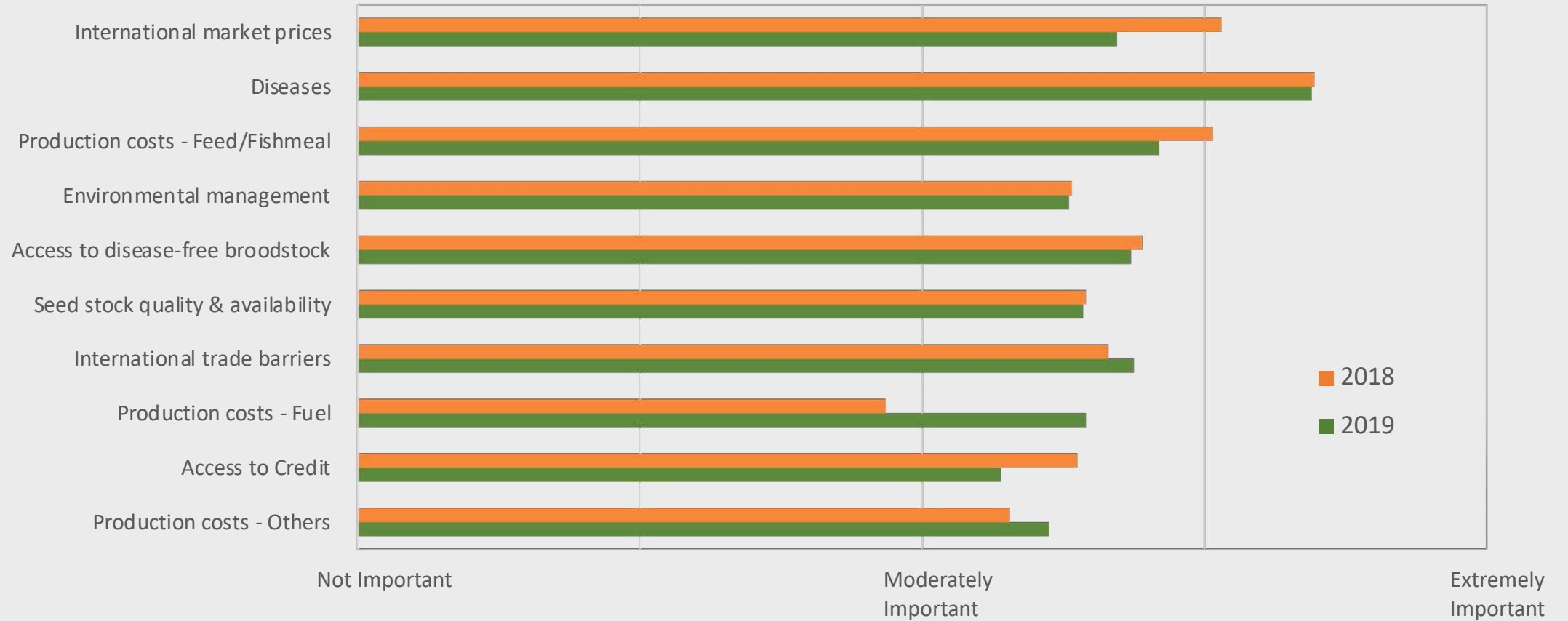


Source: Eurostat (2019)

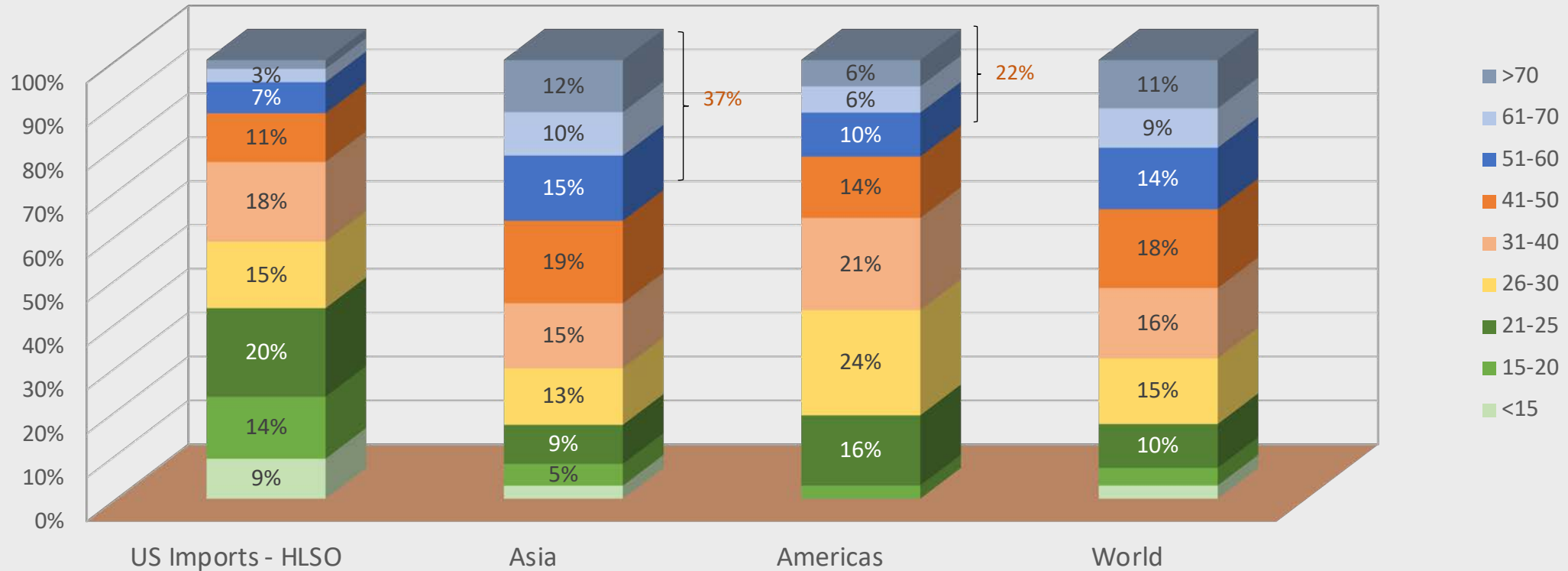
\* Estimate

# Worldwide Top Issues and Challenges in Shrimp Aquaculture

## 2019 Survey vs. 2018 Survey



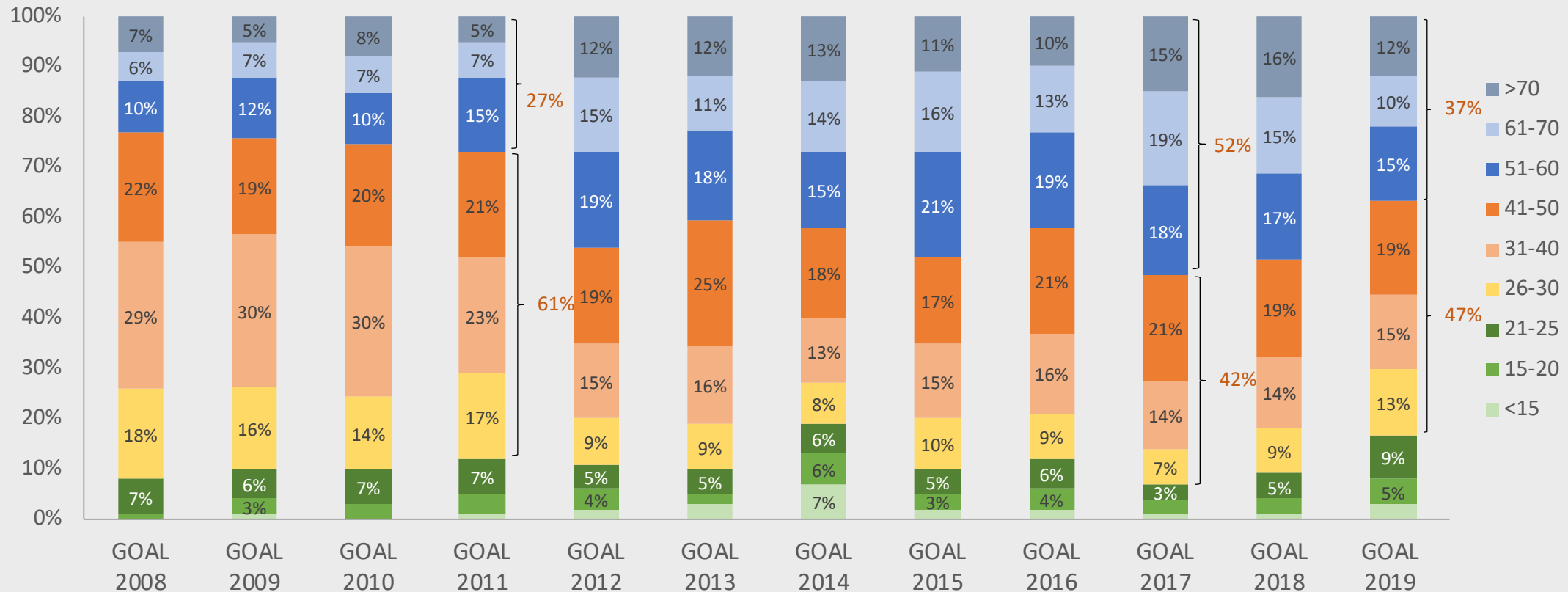
# Composition of Shrimp Aquaculture by Size Categories Aggregate 2018



Source: GOAL (2019).

# Composition of Shrimp Aquaculture by Size Categories

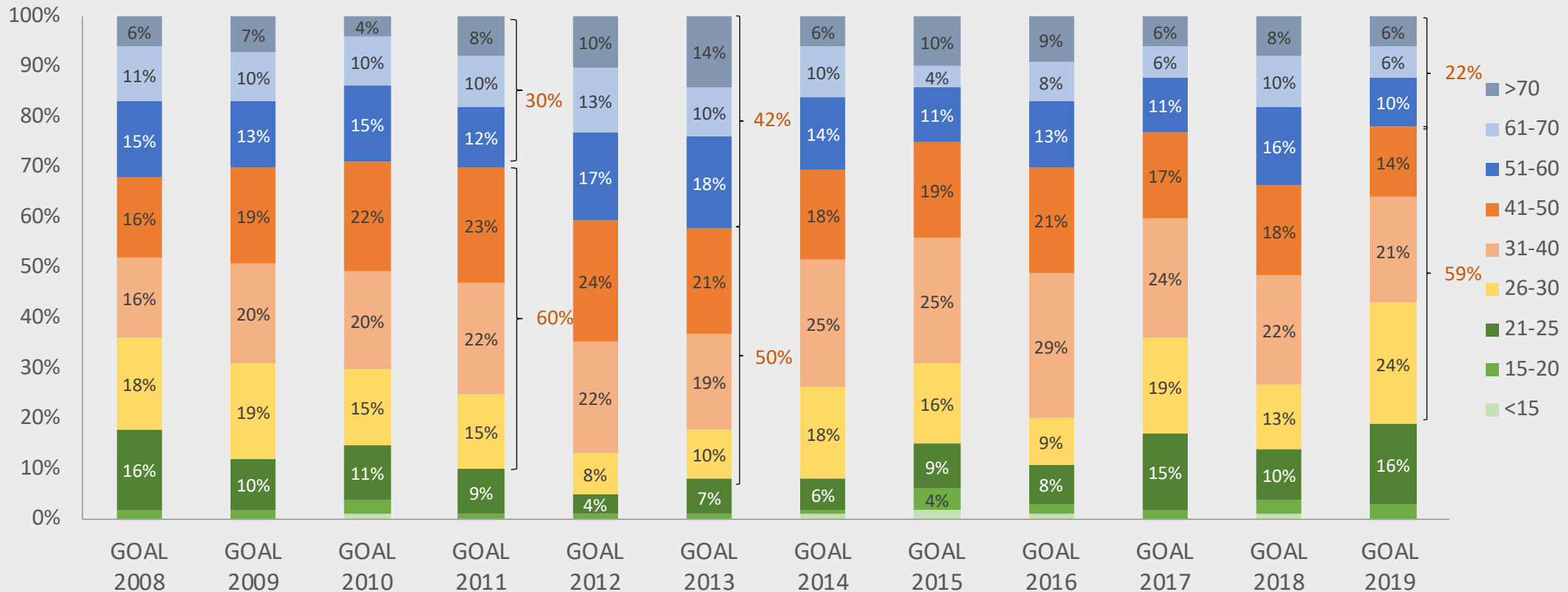
## Comparison of Survey data for Asia



Disease problems in Asia led to the harvesting of smaller sizes since 2011. Survey participants expect this trend to continue in the near future.

# Composition of Shrimp Aquaculture by Size Categories

## Comparison of Survey data for the Americas

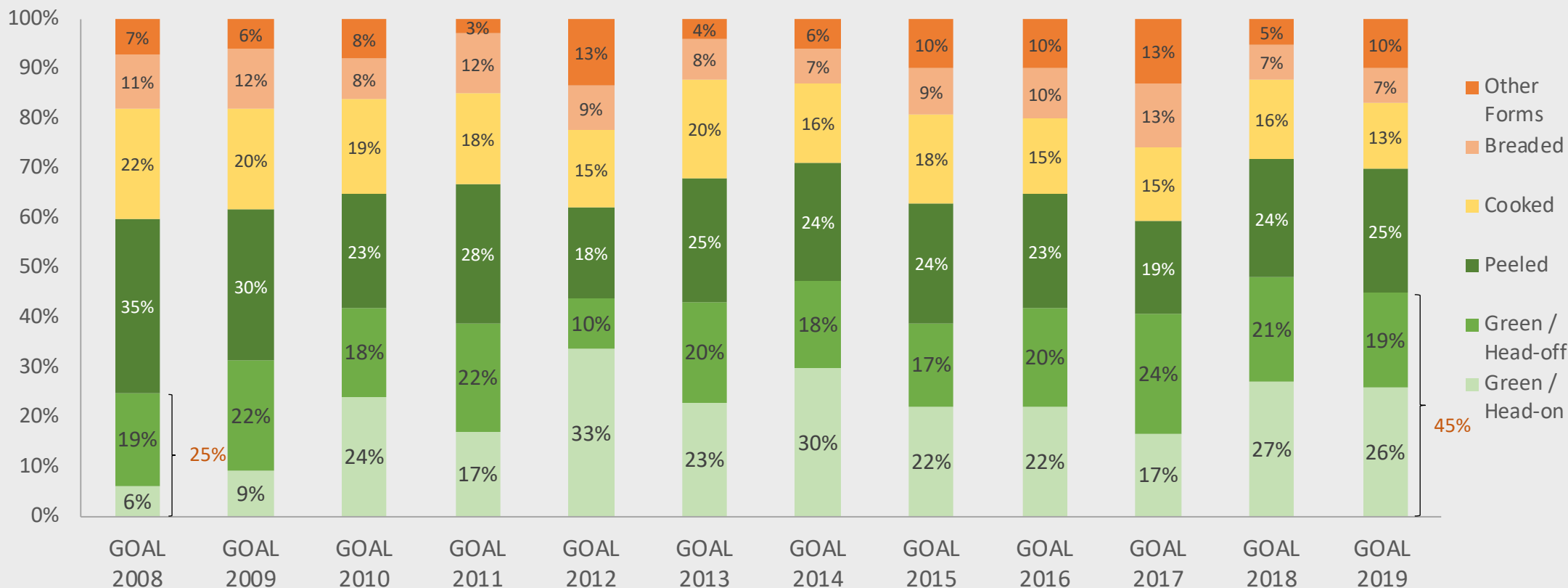


There was also a temporary trend towards smaller sizes in Latin America in 2011 and 2012.



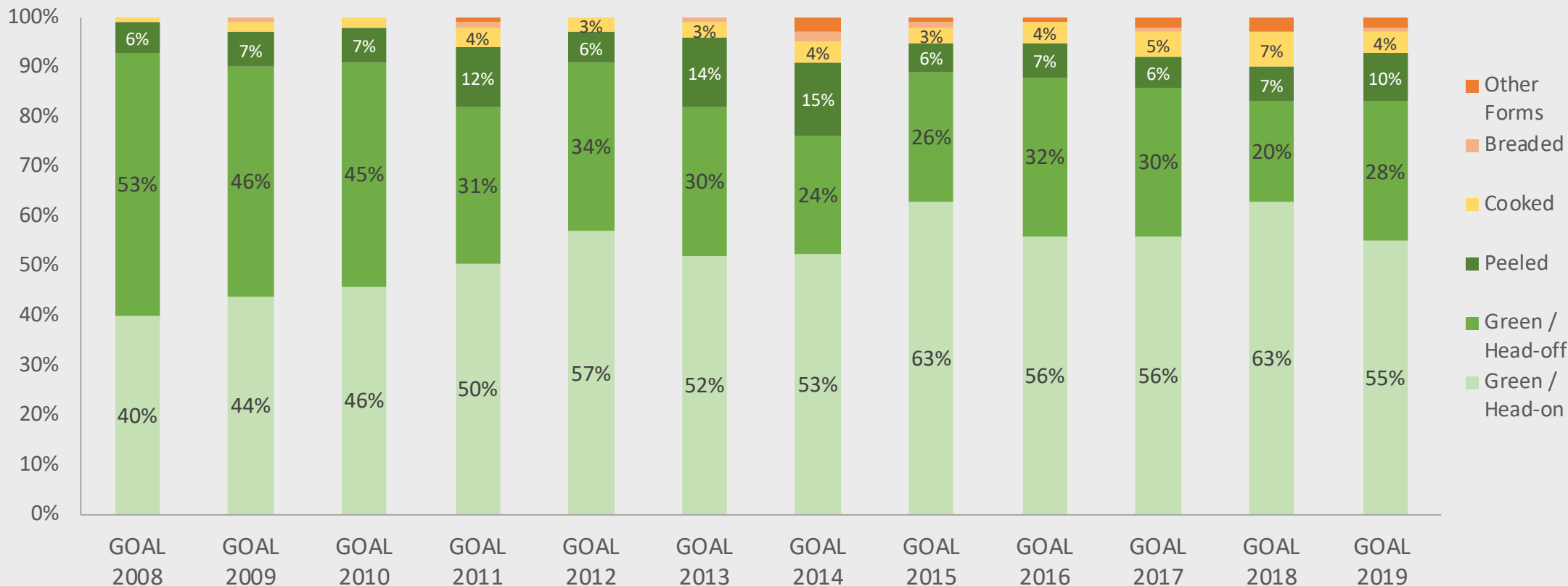
# Composition of Shrimp Aquaculture by Product Form

Comparison of Survey data for Asia



# Composition of Shrimp Aquaculture by Product Form

## Comparison of Survey data for Latin America



The growing share of the green head-on form reflects an increased presence of Latin American shrimp in European and Asian markets.